20" TFT LCD Colour Monitor- Hudson2 200P3

Service
Service
Service

EPA POLLUTION PREVENTER

DDC/Power saving/Auto Picture Adjustment

200P3G/00C

Service Manual

Horizontal frequencies
30 - 82 kHz

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SAFETY NOTICE

ANY PERSON ATTEMPTING TO SERVICE THIS CHASSIS MUST FAMILIARIZE HIMSELF WITH THE CHASSIS AND BE AWARE OF THE NECESSARY SAFETY PRECAUTIONS TO BE USED WHEN SERVICING ELECTRONIC EQUIPMENT CONTAINING HIGH VOLTAGES.

CAUTION: USE A SEPARATE ISOLATION TRANSFORMER FOR THIS UNIT WHEN SERVICING.

REFER TO BACK COVER FOR IMPORTANT SAFETY GUIDELINES

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Important Safety Notice

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Proper service and repair is important to the safe, reliable operation of all PHILIPS Consumer Electronics Company** Equipment. The service procedures recommended by PHILIPS and described in this service manual are effective methods of performing service operations. Some of these service operations require the use of tools specially designed for the purpose. The special tools should be used when and as recommended.

It is important to note that this manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It is also important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. PHILIPS could not possibly know, evaluate and advise the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, PHILIPS has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by PHILIPS must first satisfy himself thoroughly that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.

** Hereafter throughout this manual, PHILIPS Consumer Electronics Company will be referred to as PHILIPS.

WARNING

Critical components having special safety characteristics are identified with a ⚠ by the Ref. No. in the parts list and enclosed within a broken line*
(where several critical components are grouped in one area) along with the safety symbol ⚠ on the schematics or exploded views.

Use of substitute replacement parts which do not have the same specified safety characteristics may create shock, fire, or other hazards.

Under no circumstances should the original design be modified or altered without written permission from Philips. Philips assumes no liability, express or implied, arising out of any unauthorized modification of design.
Servicer assumes all liability.

* *Broken Line* ▬ ▪ ▬ ▪ ▬ ▪

FOR PRODUCTS CONTAINING LASER :

DANGER- Invisible laser radiation when open. AVOID DIRECT EXPOSURE TO BEAM.

CAUTION- Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

CAUTION- The use of optical instruments with this product will increase eye hazard.

TO ENSURE THE CONTINUED RELIABILITY OF THIS PRODUCT, USE ONLY ORIGINAL MANUFACTURER'S REPLACEMENT PARTS, WHICH ARE LISTED WITH THEIR PART NUMBERS IN THE PARTS LIST SECTION OF THIS SERVICE MANUAL.

Take care during handling the LCD module with backlight unit

- Must mount the module using mounting holes arranged in four corners.
- Do not press on the panel, edge of the frame strongly or electric shock as this will result in damage to the screen.
- Do not scratch or press on the panel with any sharp objects, such as pencil or pen as this may result in damage to the panel.
- Protect the module from the ESD as it may damage the electronic circuit (C-MOS).
- Make certain that treatment person s body are grounded through wrist band.
- Do not leave the module in high temperature and in areas of high humidity for a long time.
- Avoid contact with water as it may a short circuit within the module.
- If the surface of panel become dirty, please wipe it off with a soft material. (Cleaning with a dirty or rough cloth may damage the panel.)

Technical Specifications

LCD PANEL

Type :TFT LCD
Screen size :20.1" /51cm
Pixel Pitch :0.255 x0.255mm
LCD Panel type :1600 x 1200 pixels
R.G.B. vertical stripe
Anti-glare polarizer, hard coated
Effective viewing area :408 x 306mm
Display Colors :8 bits interface (16M colors)

SCANNING

Vertical refresh rate :56Hz-85Hz
Horizontal Frequency :30kHz-94kHz (Analog input),
:30kHz-92kHz(Digital input)

VIDEO

Video dot rate :202MHz
Input impedance
- Video :75 Ohm
- Sync :2K Ohm
Input signal levels :0.7 Vpp
Sync input signal :Separate sync
:Composite sync
:Sync on green
Sync polarities :Positive and negative
S-Video :Y input 1.0Vpp, C input 0.3Vpp,75ohm input impedance
CVBS :Composite, 1.0Vpp,75ohm input impedance
Video interface :Triple input(two connectors): D-Sub(analog) and DVI-I(accepts both digital and analog) are available and user selectable S-Video &CVBS

AUDIO-IN

Input signal level :0.7 Vpp
Headphone out signal level :32Ω 20+20mW
Input signal connector :3.5mm mini jack
Loudspeaker :4W Stereo Audio (2W/channel RMSx2, 200Hz-12kHz, 4ohm,THD=10%)

MICROPHONE

Sensitivity :-45dB re 1V/ubar at 1kHz
Output impedance :2.2KΩ max
Directivity :-5dB at 180°
Frequency range :300Hz-3kHz

Optical characteristics

Contrast ratio : 300 (typ.)
Brightness :250 cd/m²(typ.)
Peak contrast angle :6 o'clock
White Chromatcity: x: 0.281 y: 0.311 (at 9300°K)
x: 0.312 y: 0.338 (at 6500°K)
Viewing Angle: Upper ≥85° (typ.)
(C/R>10) Lower≥85° (typ.)
Left ≥85° (typ.)
Right ≥85° (typ.)
Response time ≤30ms (typ.)

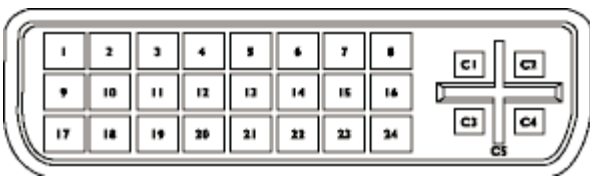
Physical Specifications

Dimension (WxHxD) :488 x 459 x220 mm (incl. Pedestal)
Weight :10.0 Kg
Tilt / Swivel :-5° ~ 25° / + - 175°
Power supply :100 240 VAC, 50/60 Hz
Power consumption :52 W (typ.)
Temperature :5° C to 35° C (operating)
:-20° C to 60° C (storage)
Relative humidity :20% to 80%
System MTBF :50K hrs (including CCFL 40K hrs)
Cabinet color :200P3M: Light Gray
200P3G: Black

Pin Assignment

1. The digital/analog DVI-I onnector contains 29 signal contacts organized in three rows of eight contacts. Signal pin assignments are listed in the

Pin No.	Signal Assignment	Pin No.	Signal Assignment	Pin No.	Signal Assignment	Pin No.	Signal Assignment
1	TMDS Data 2-	9	TMDS Data 1-	17	TMDS Data 0-	C1	Analog Red Video Out
2	TMDS Data 2+	10	TMDS Data 1+	18	TMDS Data 0+	C2	Analog Green Video Out
3	TMDS Data 2/4 Shield	11	TMDS Data 1/3 Shield	19	TMDS Data 0/5 Shield	C3	Analog Blue Video Out
4	TMDS Data 4-	12	TMDS Data 3-	20	TMDS Data 5-	C4	Analog Horizontal Sync
5	TMDS Data 4+	13	TMDS Data 3+	21	TMDS Data 5+	C5	Analog Common Ground Return (Red, Green, Blue Video Out)
6	DDC Clock	14	+5V Power	22	TMDS Clock Shield		
7	DDC Data	15	Ground (+5V, Analog H/V Sync)	23	TMDS Clock+		
8	Analog Vertical Sync	16	Hot Plug Detect	24	TMDS Clock-		



Technical Data(Continued)

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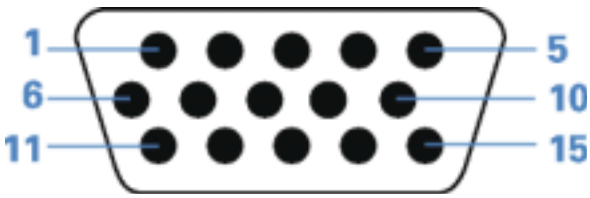
2. The 15-pin D-sub connector (male) of the signal cable:



Pin No.	Assignment	Pin No.	Assignment
1	Red video input	9	+5V
2	Green video input/SOG	10	Logic ground
3	Blue video input	11	Identical output - connected to pin 10
4	Sense (GND)	12	Serial data line (SDA)
5	Not connected	13	H. Sync / H+V
6	Red video ground	14	V. Sync (VCLK for DDC)
7	Green video ground	15	Data clock line (SCL)
8	Blue video ground		

Automatic Power Saving

If you have VESA's DPMS compliance display card or software installed in your PC, the monitor can automatically reduce its power consumption when not in use. And if an input from a keyboard, mouse or other input device is detected, the monitor will automatically "wake up". The following table shows the power consumption and signaling of this automatic power saving features:

Power Management Definition					
VESA Mode	Video	H-sync	V-sync	Power Used	LED color
ON	Active	Yes	Yes	< 60W	Green
Stand-by	Blanked	No	Yes	< 3W	Amber
Suspend	Blanked	Yes	No	< 3W	Amber
OFF	Blanked	No	No	< 3W	Amber

This monitor is ENERGY STAR® compliant. As an ENERGY STAR® Partner, PHILIPS has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.

Resolution & Preset Modes

Maximum	1600 x 1200 at 75Hz(analog input) 1600 x 1200 at 60Hz(digtal input)
Recommended	1600 x 1200 at 60Hz

50 user definable modes

18 factory preset modes:

H. freq (kHz)	Resolution	V. freq (Hz)
31.5	640*350	70 (IBM VGA 10h)
31.5	720*400	70
31.5	640*480	60
35.0	640*480	67
37.5	640*480	75
35.2	800*600	56
37.9	800*600	60
46.9	800*600	75
49.7	832*624	75
48.4	1024*768	60
60.0	1024*768	75
69.0	1152*870	75
71.8	1152*900	76 (SUN Mode II)
63.9	1280*1024	60
80	1280*1024	75
91.1	1280*1024	85
75.0	1600*1200	60
93.8	1600*1200	75

CVBS

The input signals are applied to display through CVBS cable

pin assignment

PIN NO.	SIGNAL
1	GND
2	CVBS
3	CVBS
4	CVBS

S-Video

The input signals are applied to display through S-Video cable

pin assignment

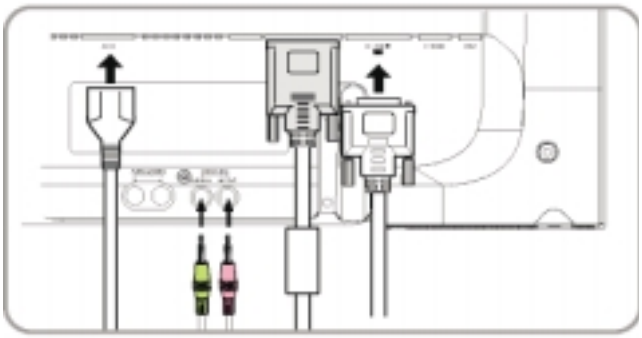
PIN NO.	SIGNAL
1	GND
2	GND
3	LUMA
4	CHROMA
5	GND
6	GND
7	GND

Connection to PC,Front Control

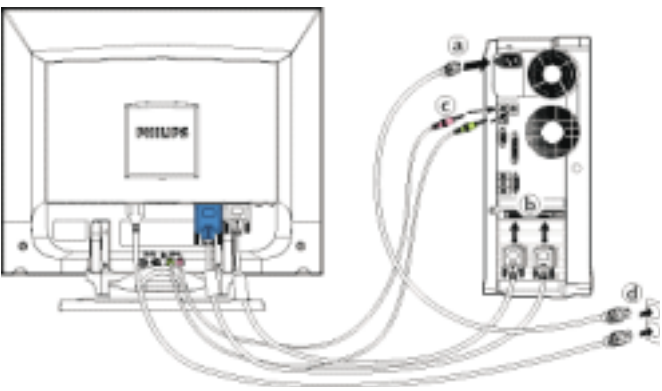
Connect to PC

Philiips has pre-connected VGA cable for the first installation.

Connect power cord, VGA, DVI, microphone and audio cables onto rear of monitor firmly



If you use an Apple Macintosh™, you need to connect the special Mac adapter to one end of the monitor signal cable.



Connect the cables to the back of your computer by following steps

(a) Turn off your computer and unplug its power cord.

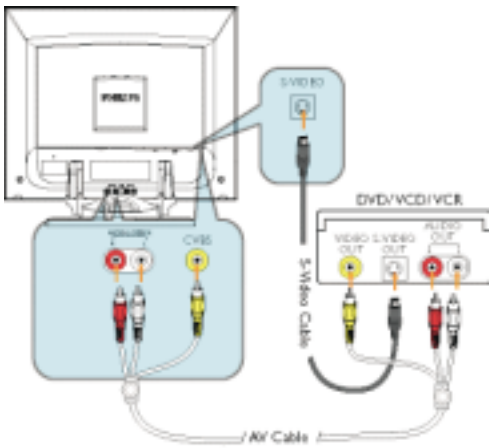
(b) Connect the VGA or DVI cable to video connector.

(c) Connect the microphone and audio cables.

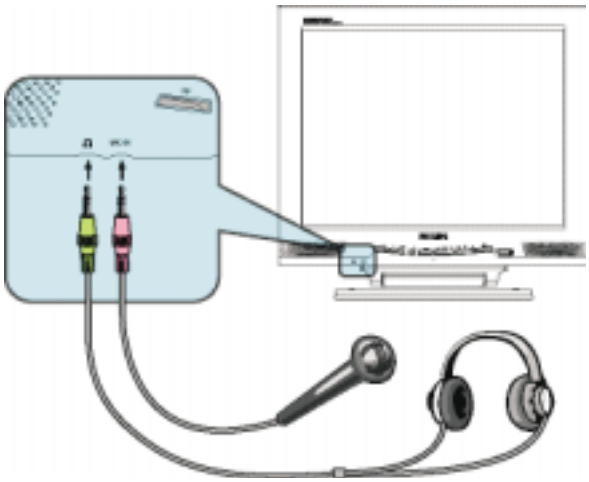
(d) Plug the power cord of computer and monitor into a nearby outlet.

(e) Turn on your computer and monitor. If the monitor displays an image, installation is complete.

Connect to DVD/VCR/VCD



Connect to Microphone and Earphone



Front Control , Base

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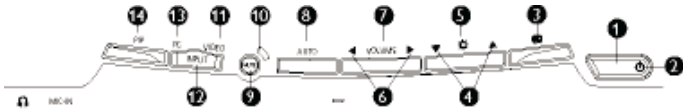
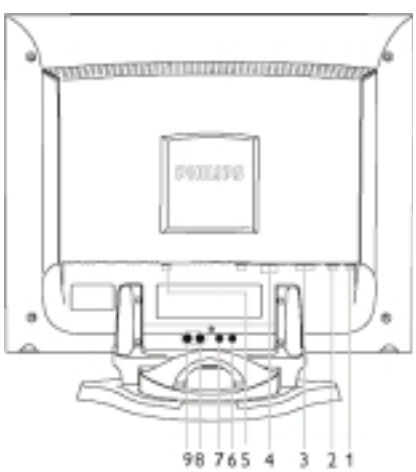
Front View Product Description



1	To switch monitor's power On and Off
2	Power LED
3	To access OSD menu
4	To adjust the OSD
5	To adjust brightness of the display
6	To adjust the OSD
7	To adjust speakers volume
8	Automatically adjust the horizontal position, vertical position, phase and clock setting
9	To mute the audio sound
10	MUTE LED
11	Video input LED, lit when CVBS or S - Video activated
12	Signal inputs selection
13	PC input LED, lit when VGA or DVI activated
14	Activated PIP (Picture in Picture) window

Rear View



1 CVBS video input

2 S-Video video input

3 VGA input

4 DVI-I input

5 AC power in

6 Mic out

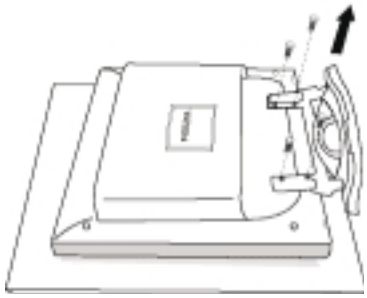
7 Audio in

8 Audio L input

9 Audio R input

Removing the monitor base

The monitor surface is susceptible to scratching!



Lay the monitor on its face on a soft surface.
Remove the four screws on the rear of the monitor.

Accessory Pack

Unpack all the parts.

3138 128 74931

Power cord

3138 188 72261(BLK)
3138 188 72051(white)

VGA signal cable

3138 188 75051(BLK)
3138 188 75031(white)

PC audio cable (lime)

3138 188 75061(BLK)
3138 188 75041)white)

Mic cable (pink)

3138 188 74551(BLK)
3138 188 74541(white)

S-video cable

2422 033 00265

Mac adaptor (optional)

3138 188 72251(BLK)
3138 188 72241(white)

DVI to D-Sub signal cable

3138 188 74531(BLK)
3138 188 74521(white)

AV cable (white/red/yellow)

3138 117 04281

EDFU pack

Settings using the OSD menu

Description of the On Screen Display

This is a feature in all Philips LCD monitors which allows an end-user to adjust screen performance of monitors directly through an on-screen instruction window. The user interface provides user-friendliness and ease-of-use when operating the monitor.

On the front controls of your monitor, once you press OK the button, the On Screen Display (OSD) Main Controls window will pop up and you can now start making adjustments to your monitor's various features. Use the ▲ ▼ or the ◄ ► keys to make your adjustments within.

Setting language for the OSD menu (LANGUAGE**).**

The corresponding setting window (here: ADJUST POSITION**) is displayed.**

Press the ◄ or ► button to adjust the selected function

Adjusting the Brightness and Control

Press the key ◄ or ► to mark another function or press the MENU key to return to the main menu.

Setting the colour temperature

Setting Adjust Size

Selecting Input Signal

Adjusting the Volume

Press the ◄ or ► button to adjust the selected function

Advanced control of OSD, Factory mode

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To Lock/Unlock OSD function

The OSD function can be locked by pressing button for more than 10 seconds, the screen shows following windows for 3 seconds. Everytime when you press any button, this message appears on the screen automatically.

Locked OSD function can be released by pressing button for more than 10 seconds. .

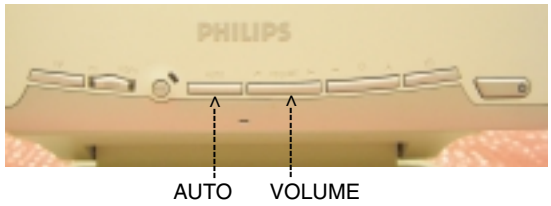
Switch ON/OFF attention signals

All attention signals can be switched off by keep pressing button for more than 10 seconds if there is no video signal supplied.

Recover attention signals by pressing button for more than 10 seconds without video signal input.

Access Factory Mode

Fig. 5



Factory Mode:
How to Get into Factory Mode Menu

Turn on LCD monitor.

Push AUTO " " & Left-VOLUME" " buttons simultaneously 3 seconds around.
Bring up Factory mode indication as shown in Fig 6.

Check Firmware version : example as below.
CODE VERSION. 2.02 2002-08-07
CONFIG VERSION. 2.02 2002-08-07
OSD VERSION. 2.02 2002-08-07

Factory Mode indication==========>

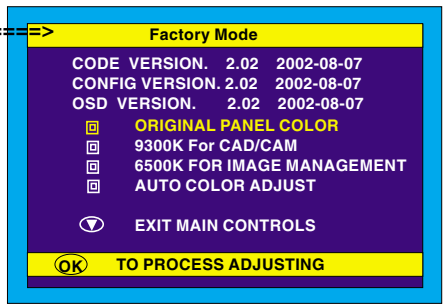


Fig. 6

OSD Attention signals

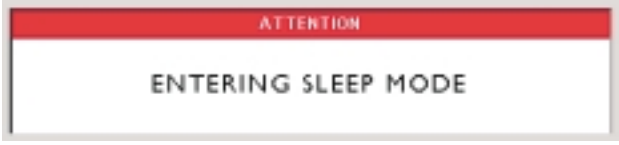
The monitor will detect various display situation automatically. When the monitor detects the problems, the screen will show the different warning signals to remind you what is happen to your monitor.

NO VIDEO INPUT
This screen appears if there is no video signal input. Please check that the signal cable is properly connected to the video card of PC and make sure PC is on.

CANNOT DISPLAY THIS VIDEO MODE..
This screen warns when the input frequency from the computer is not a standard video mode or out of the monitor's scanning range. Please change the display mode of the operating software in the computer(i.e. Windows) to 1600 x1200 @ 60Hz for best display results.

WAIT FOR AUTOMATIC ADJUSTMENT
This screen appears when you touch the AUTO button. It will disappear when the monitor is properly adjusted.

ENTERING SLEEP MODE
This screen appears when the monitor is about to enter the sleep mode. Please press any key on the keyboard or click the mouse to wake up the monitor and computer.



OSD menu tree -Analog

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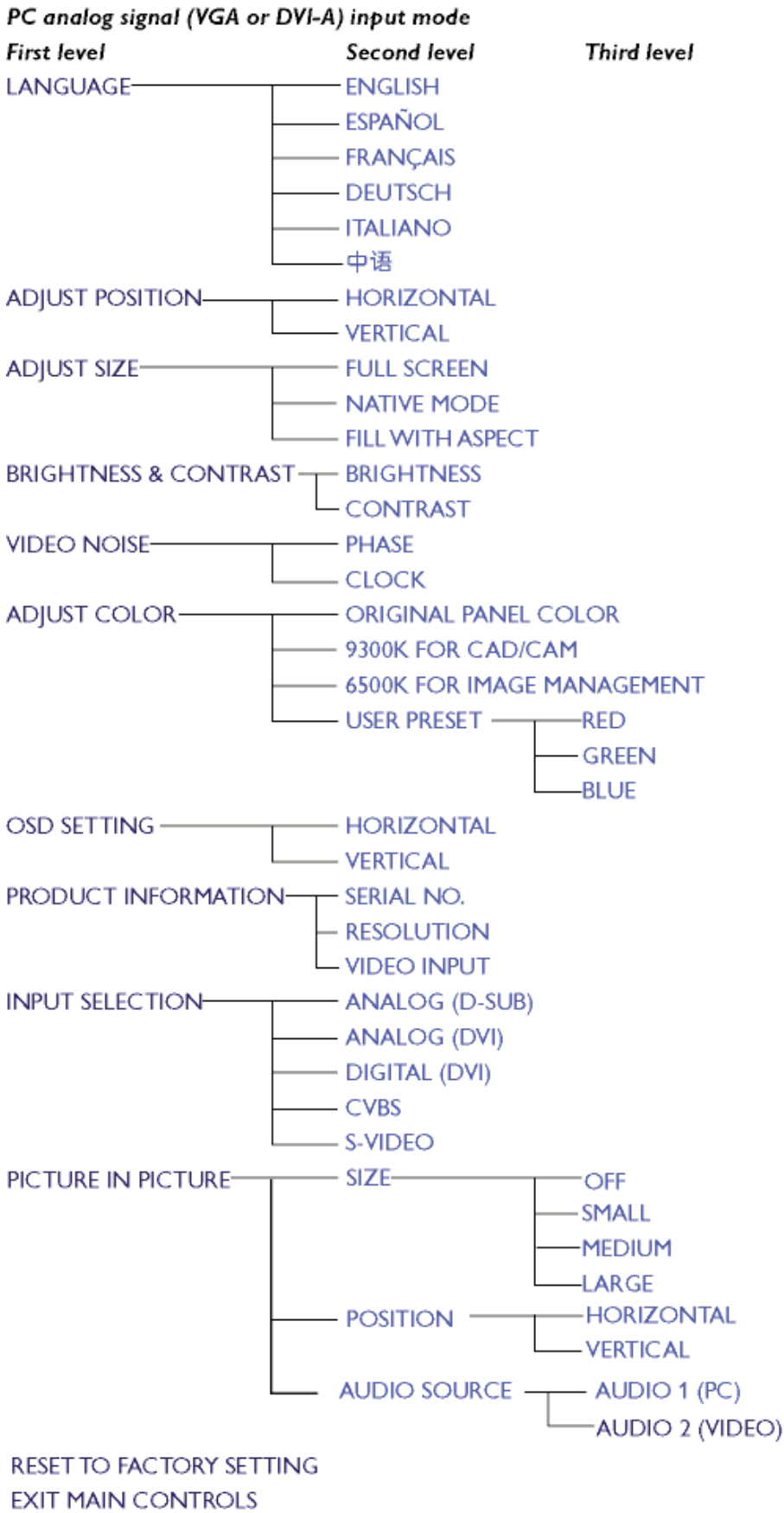
The OSD Tree

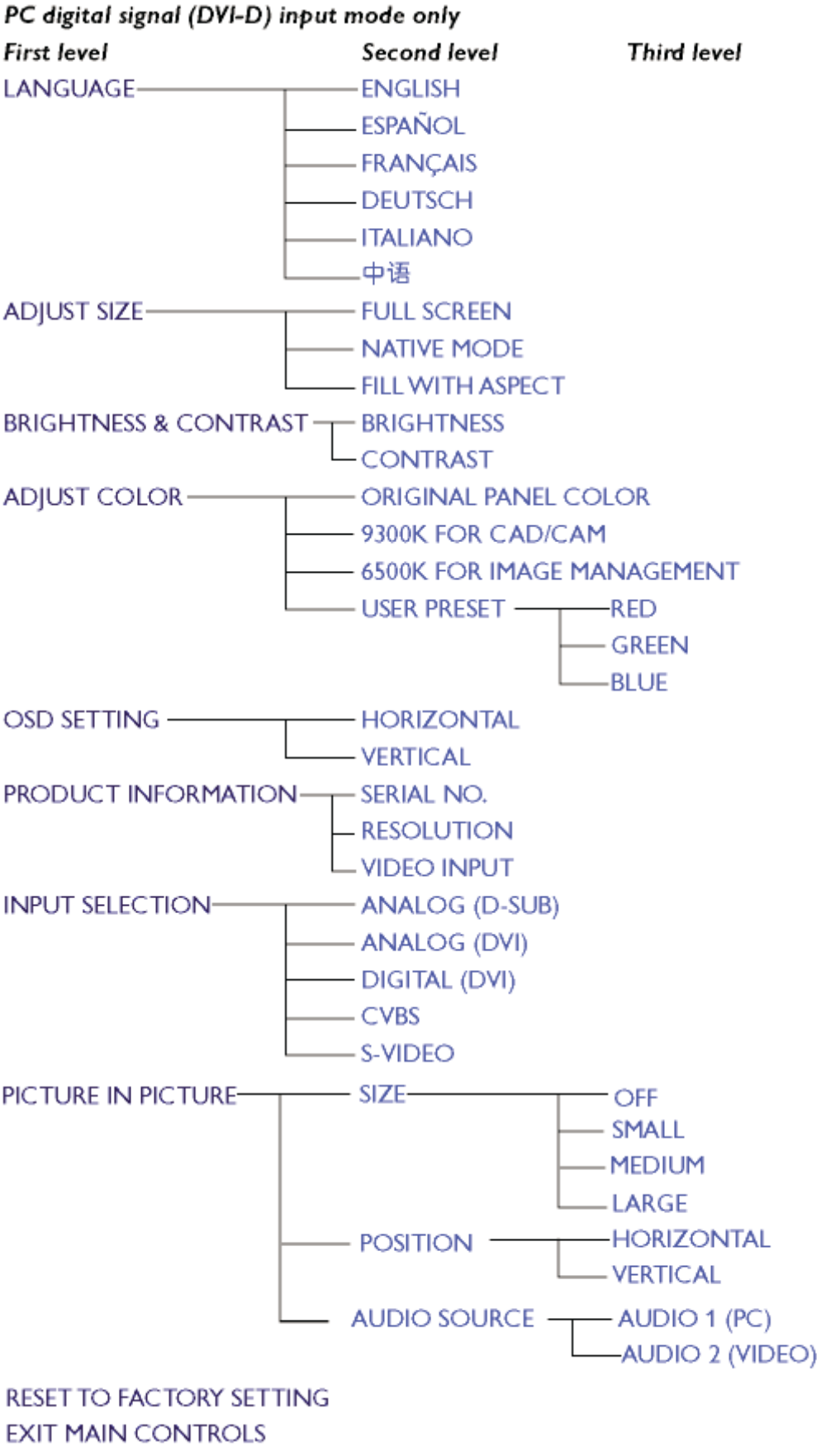
Below is an overall view of the structure of the On-Screen Display. You can use this as reference when you want to later on work your way around the different adjustments.



OSD menu tree - Digital

The OSD Tree

Below is an overall view of the structure of the On-Screen Display. You can use this as reference when you want to later on work your way around the different adjustments.



OSD Lock/Unlock, Aging Mode

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Front control panel

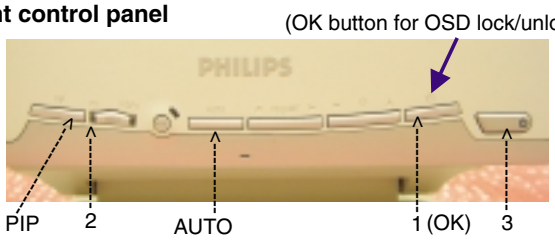


Fig. 1

1 = Buttons for the OSD menu (On-Screen-Display)
2 = Power indicator (PC)
3 = Power button

To Lock/Unlock OSD function (User Mode)

The OSD function can be locked by pressing "OK" button(1) for more than 10 seconds, the screen shows following windows for 3 seconds. Everytime when you press "AUTO" or "OK" button, this message appears on the screen automatically.

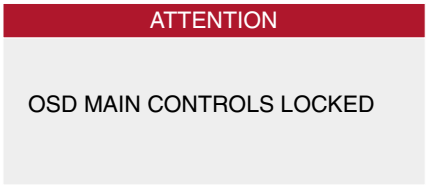


Fig. 2

Unlock OSD function:
Locked OSD function can be released by pressing"OK" button for more than 10 seconds again.

Fig. 3

PICTURE IN PICTURE (PIP):
Press the PIP hotkey on front control, will bring up PIP screen as shown in Fig. 1.
Monitor (embeded software) will detect CVBS and S-Video input for PIP function automatically at this moment.

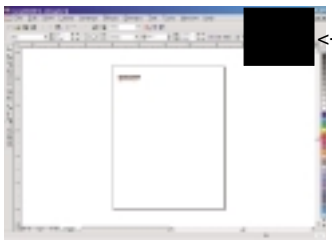


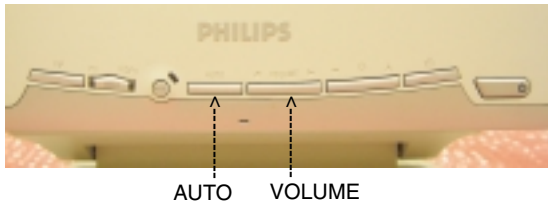
Fig. 1

Access Aging.. Mode

Step 1:

Access Factory Mode

Fig. 1



Factory Mode:
How to Get into Factory Mode Menu

Turn on LCD monitor.

Push AUTO " " & Left-VOLUME" " buttons
simultaneously 3 seconds around.
Bring up Factory mode indication as shown in Fig 2.

Factory Mode indication==========>

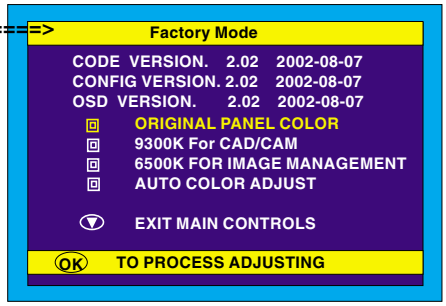
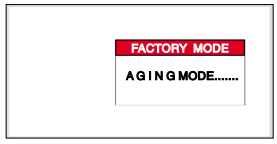


Fig. 2

Step 2:

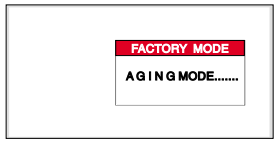
When Factory mode comes on monitor screen, disconnect the Signal Cable at this moment.

Bring up :



After 5 seconds, bring up :

After 5 seconds, bring up :



After 5 seconds, bring up :

---
repeatly

Connect signal cable again => go back to normal display.

CLOCK & PHASE Adjustments

The monitor has build-in a auto adjustment hotkey on the front panel, you may obtained a optimal video display by simply press the **AUTO** button and save the settings. CLOCK, PHASE, Vertical position, and Horizontal position are adjusted automatically.

Due to the different quality of video signal generated from graphics cards. By press AUTO button for CLOCK and PHASE adjustment automatically. Sometimes, the deviation of video signal which generated from graphics cards is out of control, then it is necessary to adjust CLOCK and PHASE functions for the optimal video display of LCD monitor by manual. Following steps will guide you to make correct adjustment of CLOCK and PHASE.

However, CLOCK and PHASE functions are only available while analog video signal is supplied. Operating unit under digital signal state, the video clock information can be obtained from graphics cards directly. Therefor, it is unnecessary to adjust these functions.

Front control panel

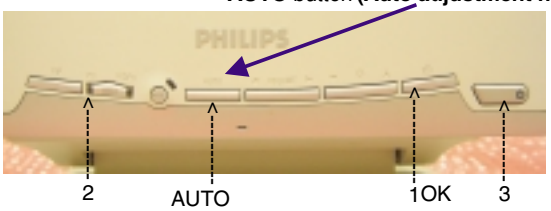


Fig. 1

1 = OK button for the OSD menu (On-Screen-Display)
2 = Power indicator (PC)
3 = Power button

Manual adjustment

If the quility of display still poor or flicker, you may also improve it by manual adjust CLOCK and PHASE functions to eliminate the flicker.

Step 1 : Click on the Start button (Win95, Win98 or Win NT) and choose " Shut Down...". as shown in Fig. 2.

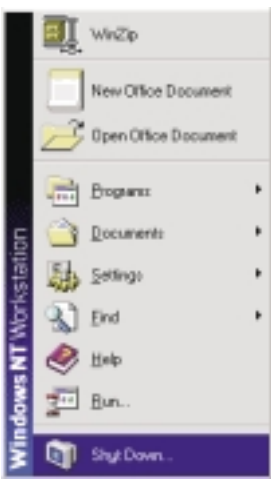


Fig. 2

Step 2 : The menu of " Shut Down Windows " is as shown in Fig. 3

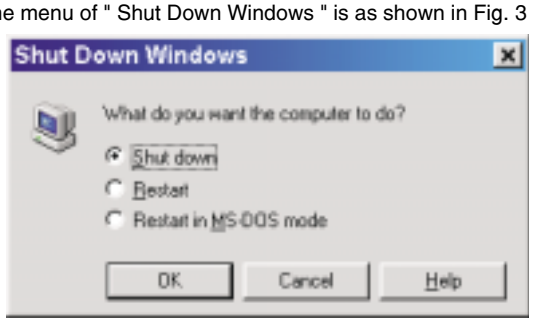


Fig. 3 (Win 98)

Step 3 : Retain Shut Down Window on the screen , follow the CLOCK and PHASE adjustment instructions for the optimal video display.

Step 4 : Press the OK button to bring up MAIN CONTROLS (OSD menu).

Video Noise

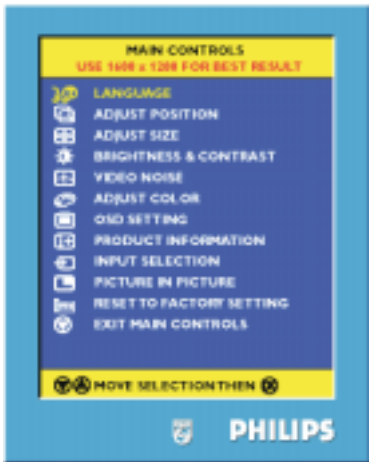


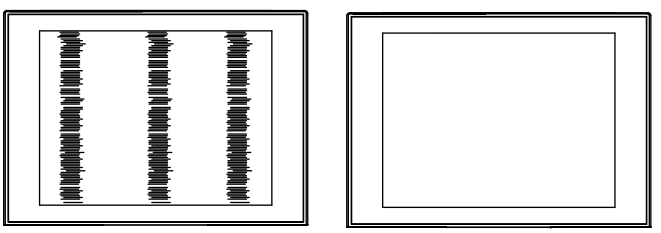
Fig. 4

Step 5 : Select Video Noise by press button.
Step 6 : Press OK button to bring up it s submenu.

Using UP or DOWN button to select it.

Fig. 5

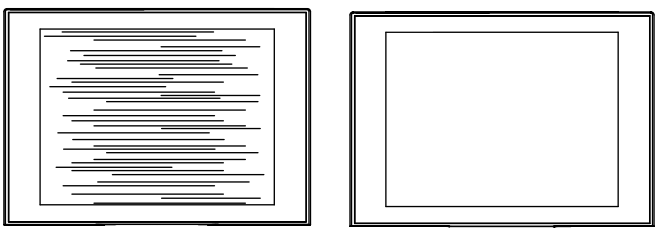
Step 7 : Press Left or Right button to adjust CLOCK. The picture will be adjusted as following figure, adjust CLOCK to fine-tune the video until optimal display is obtained.



CLOCK Phenomenon (Before)

(After)

Step 8 : Press Left or Right button to adjust PHASE. The picture will be adjusted as following figure, adjust PHASE and check the picture, stop at the point that without any vertical jitter bar remaining on the screen.



PHASE phenomenon (Before)

(After)

Step 9 : Quit OSD menu by press OK button to save the settings.

DDC Instructions

General

DDC Data Re-programming

In case the DDC data memory IC or main EEPROM which storage all factory settings were replaced due to a defect, the serial numbers have to be re-programmed"**Analog DDC IC, Digital DDC IC & EEPROM**". It is advised to re-soldered DDC IC and main EEPROM from the old board onto the new board if circuit board have been replaced, in this case the DDC data does not need to be re-programmed.

Additional information

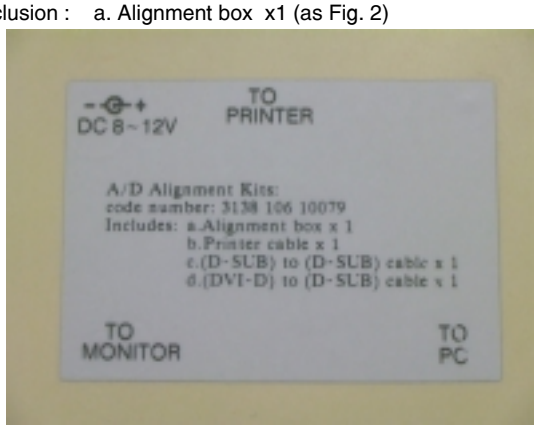
Additional information about DDC (Display Data Channel) may be obtained from Video Electronics Standards Association (VESA). Extended Display Identification Data(EDID) information may be also obtained from VESA.

DDC EDID structure
For Analog interface: Standard Version 3.0
Structure Version 1.2
For Digital inferface: Standard Version 3.0
Structure Version 1.3

System and equipment requirements

1. An i486 (or above) personal computer or compatible.
2. Microsoft operation system Windows 95/98.
3. EDID301.EXE program (3138 106 10103) as shown in Fig. 1
4. A/D Alignment kits (3138 106 10079):
   inclusion : a. Alignment box x1 (as Fig. 2)

Fig. 2



b. Printer cable x1
c. (D-Sub) to (D-Sub) cable x1
d. (DVI-D) to (D-Sub) cable x1 (as Fig. 3)

Note: The EDID301.EXE (Release Version 1.58 20000818)is a windows-based program, which cannot be run in MS-DOS.

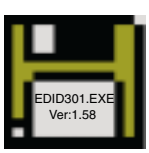
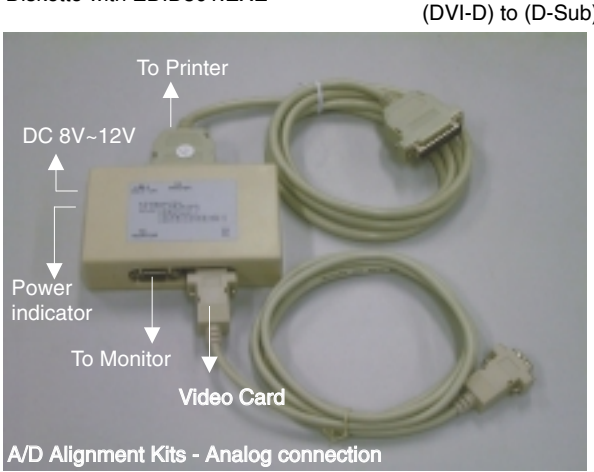


Fig. 1

Diskette with EDID301.EXE

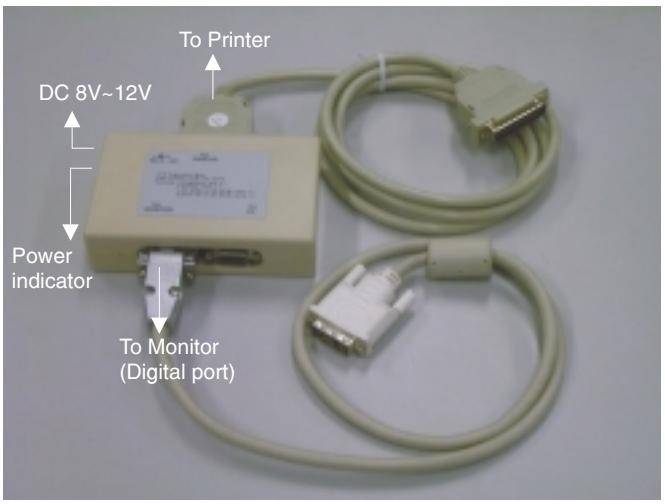
Fig. 3

(DVI-D) to (D-Sub) cable



A/D Alignment Kits - Analog connection

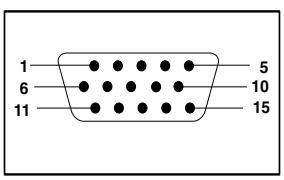
Note: The alignment box has already build-in a batteries socket for using **batteries (9V)** as power source. Pull out the socket by remove four screws at the rear of box. Please do not forget that remove batteries after programming. The energy of batteries can only drive circuits for a short period of time.



A/D Alignment Kits - Digital connection

Pin assignment

A. 15-pin D-Sub Connector



Pin No.	Assignment	Pin No.	Assignment
1	Red video input	9	+5V
2	Green video input	10	Ground
3	Blue video input	11	Ground
4	Ground	12	Serial data line(SDA)
5	No Connected	13	H.Sync
6	Red video ground	14	V.Sync(VCLK for DDC)
7	Green video ground	15	Data clock line(SCL)
8	Blue video ground		

****

Analog DDC IC (pos. 7601, 128 bytes data) with serial number :
=> updated by DDC Alignment kit.

Digital DDC IC (pos. 7201, 128 bytes data) with serial number :
=> updated by DDC Alignment kit.

EEPROM (pos. 7463, OSD data, Factory data) with serial number :
=> updated by another tool and application software.

****

Configuration and procedure

There are 2 chips contained OSD string, serial number..etc on the circuit board,
main EEPROM which storage all factory settings,OSD string.
DDC IC which storage 128byte EDID data(serial number ..etc.).
Following descirptions are the connection and procedure for Analog and Digital DDC application, the main EEPROM can be re-programmed along with Analog/Digital IC by enable factory memory data write function on the DDC program (EDID301.EXE).

Initialize alignment box

In order to avoid that monitor entering power saving mode due to sync will cut off by alignment box, it is necessary to initialize alignment box before running programming software (EDID301.EXE). Following steps show you the procedures and connection.

Step 1: Supply 8~12V DC power source to the Alignment box by plugging a DC power cord or using batteries.
Step 2: Connecting printer cable and video cable of monitor as Fig. 3

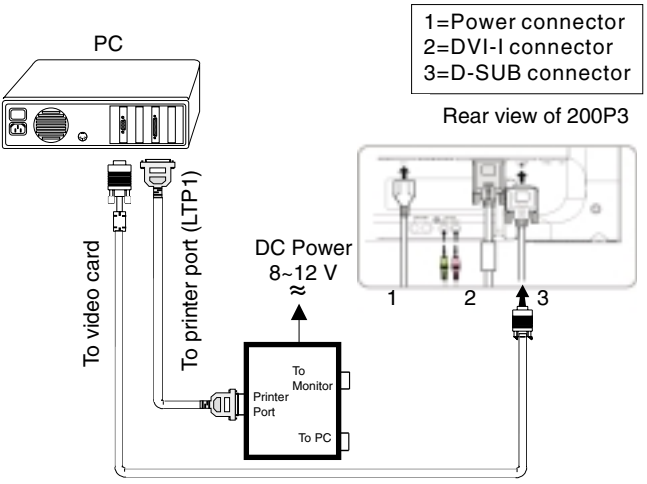


Fig. 3

Step 3: Installation of EDID301.EXE

Method 1: Start on DDC program

Start Microsoft Windows.
1. Insert the disk containing EDID301.EXE program into floppy disk drive.
2. Click Start , choose Run at start menu of Windows 95/98 as shown in Fig. 4.

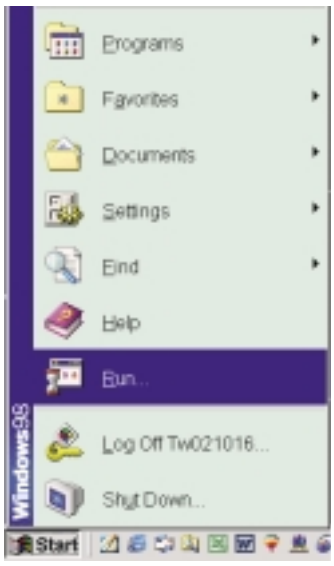


Fig. 4

3. At the submenu, type the letter of your computer's floppy disk drive followed by :EDID301 (for example, A:\EDID301, as shown in Fig. 5).

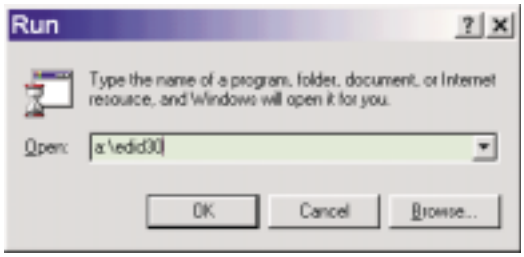


Fig. 5

4. Click **OK** button. The main menu appears (as shown in Fig. 6).
This is for initialize alignment box.

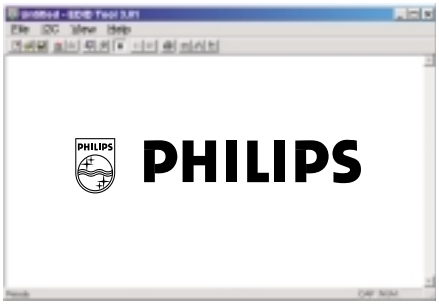


Fig. 6

Note 1: If the connection is improper, you will see the following error message (as shown in Fig. 7) before entering the main menu. Meanwhile, the (read EDID) function will be disable. At this time, please make sure all cables are connected correctly and fixedly, and the procedure has been performed properly.

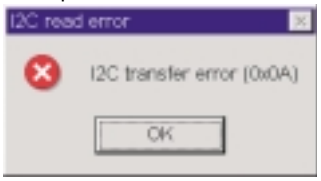
Fig. 7

Method 2: After create a shortcut of EDID301.EXE
: Double click EDID301 icon (as shown in Fig. 8) which is on the screen of Windows Wallpaper.
Bring up main menu of EDID301 as shown in Fig. 9.
This is for initialize alignment box.

Fig. 8

Fig. 9

Note 2: During the loading, EDID301 will verify the EDID data which just loaded from monitor before proceed any further function, once the data structure of EDID can not be recognized, the following error message will appear on the screen as below. Please confirm following steps to avoid this message.
1. The data structure of EDID was incorrect.
2. DDC IC that you are trying to load data is empty.
3. Wrong communication channel has set at configuration setup windows.
4. Cables loosed or poor contact of connection.



DDC Instructions (Continued)

Go to cover page

Re-programming Analog DDC IC

Step 1: After initialize alignment box, connecting all cables and box as shown in Fig. 10

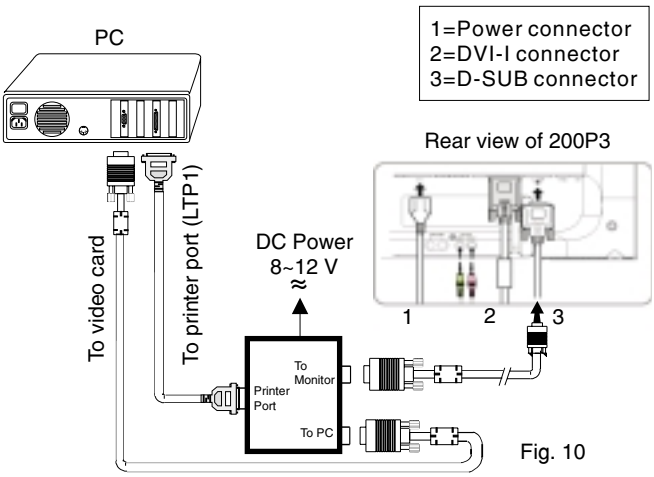


Fig. 10

Step 2: Read DDC data from monitor

1. Click icon as shown in Fig. 11 from the tool bar to bring up the Channels "Configuration Setup" windows as shown in Fig. 12.

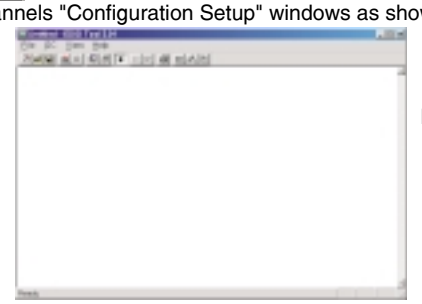


Fig. 11

2. Select the DDC2B as the communication channel. (Disable "Factory memory data write") as shown in Fig. 12.

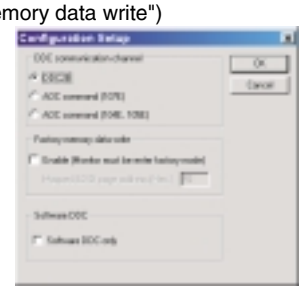
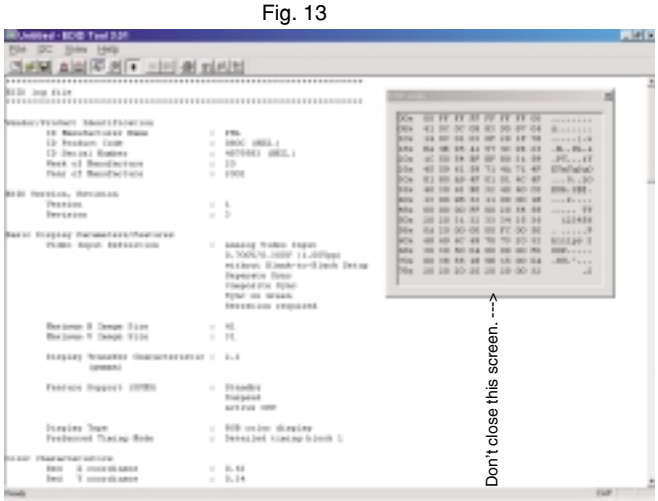


Fig. 12

3. Click OK button to confirm your selection.

4. Click icon (Read EDID function) to read DDC EDID data from monitor. The EDID codes will display on screen as shown in Fig. 13.

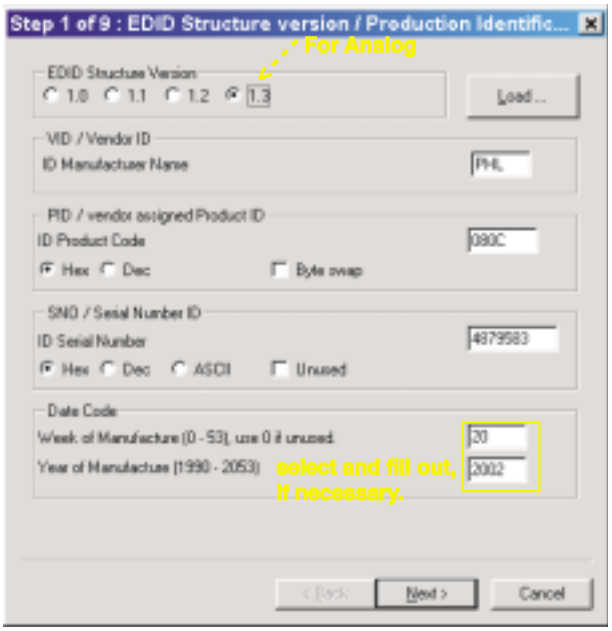
Fig. 13



Step 3: Modify DDC data (verify EDID version, week, year)

1. Click (new function) icon from the tool bar, bring up Step 1 of 9 as shown in Fig. 14 .
EDID301 DDC application provides the function selection and text change (select & fill out) from Step 1 to Step 9.

Fig. 14



Step 4: Modify DDC data (Monitor Serial No.)

1. Click **Next** , bring up Fig. 15.

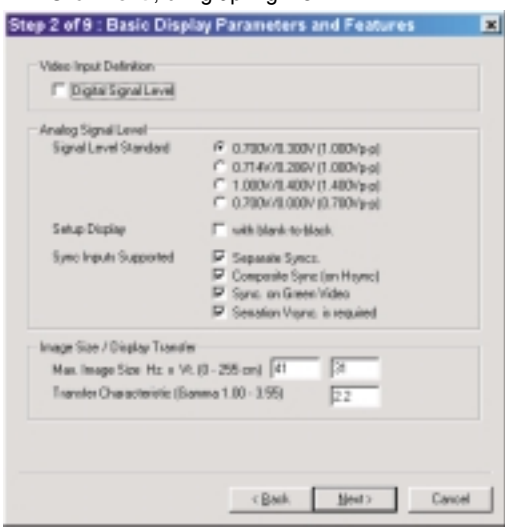


Fig. 15

2. Click **Next** , bring up Fig. 16.

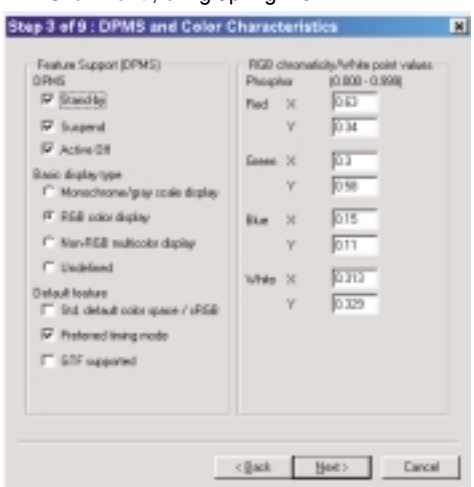


Fig. 16

DDC Instructions (Continued)

3. Click **Next** , bring up Fig. 17.

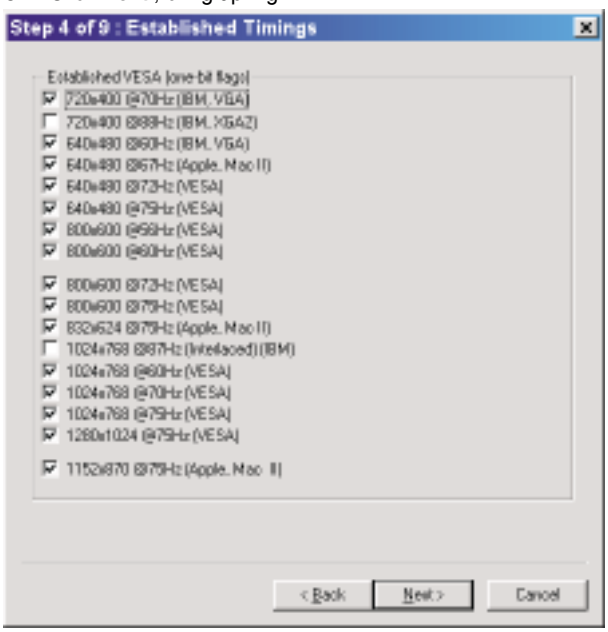


Fig. 17

4. Click **Next** , bring up Fig. 18.

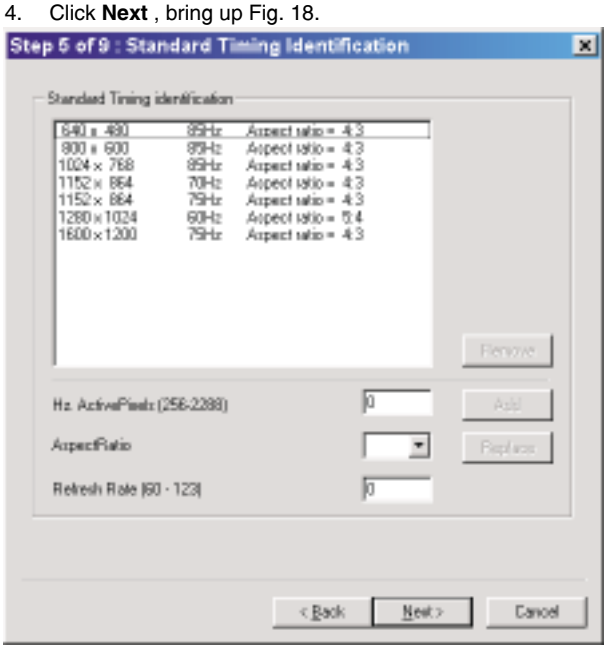

Step 5 of 9 : Standard Timing Identification
Standard Timing identification
640 x 480 85Hz Aspect ratio = 4:3
800 x 600 85Hz Aspect ratio = 4:3
1024 x 768 85Hz Aspect ratio = 4:3
1152 x 864 70Hz Aspect ratio = 4:3
1152 x 864 75Hz Aspect ratio = 4:3
1280 x 1024 60Hz Aspect ratio = 5:4
1600 x 1200 75Hz Aspect ratio = 4:3
Remove
Hz ActivePixels (256-2288)
Add
AspectRatio
Replace
Refresh Rate (60 - 123)
< Back
Next >
Cancel

Fig. 18

5. Click **Next** , bring up Fig. 19.

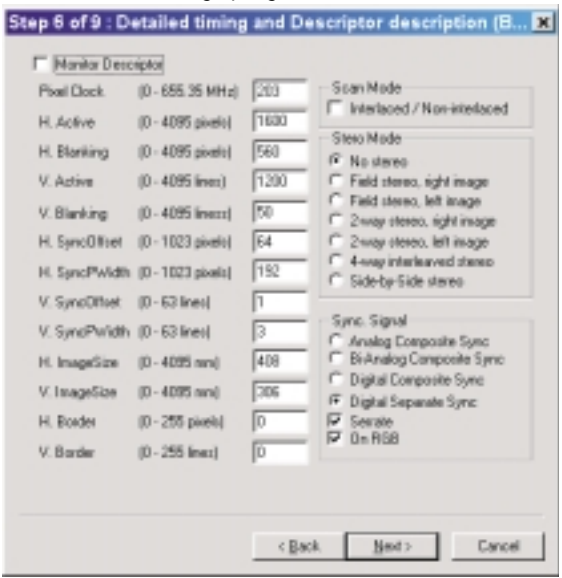

Step 6 of 9 : Detailed timing and Descriptor description (B...
Monitor Descriptor
Pixel Clock (0 - 655.35 MHz) 203
H. Active (0 - 4095 pixels) 1600
H. Blanking (0 - 4095 pixels) 560
V. Active (0 - 4095 lines) 1200
V. Blanking (0 - 4095 lines) 50
H. SyncOffset (0 - 1023 pixels) 64
H. SyncPWidth (0 - 1023 pixels) 192
V. SyncOffset (0 - 63 lines) 1
V. SyncPWidth (0 - 63 lines) 3
H. ImageSize (0 - 4095 mm) 408
V. ImageSize (0 - 4095 mm) 306
H. Border (0 - 255 pixels) 0
V. Border (0 - 255 lines) 0
Scan Mode
Interlaced / Non-interlaced
Stereo Mode
No stereo
Field stereo, right image
Field stereo, left image
2-way stereo, right image
2-way stereo, left image
4-way interleaved stereo
Side-by-Side stereo
Sync. Signal
Analog Composite Sync
Bi-Analog Composite Sync
Digital Composite Sync
Digital Separate Sync
Serrate
On RGB
< Back
Next >
Cancel

Fig. 19

6. Click **Next** , bring up Fig. 20.
(Serial number can be filled up or be changed at this moment.

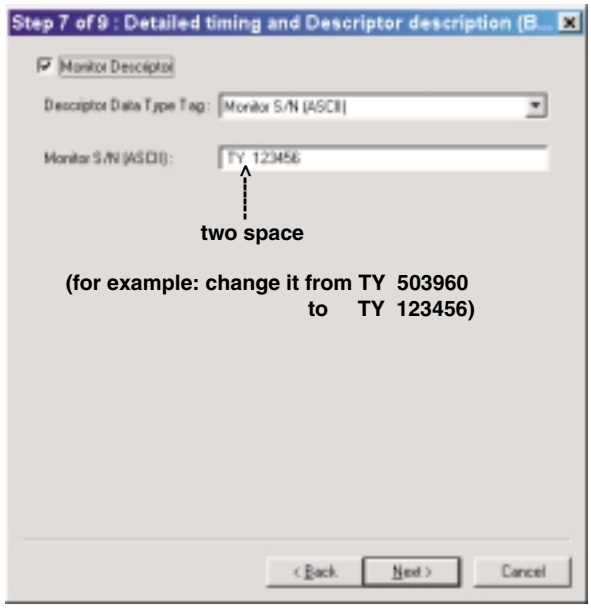
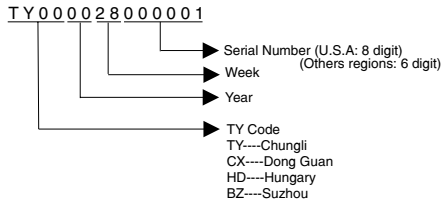

Step 7 of 9 : Detailed timing and Descriptor description (B...
Monitor Descriptor
Descriptor Data Type Tag : Monitor S/N (ASCII)
Monitor S/N (ASCII) : TY 123456
two space
(for example: change it from TY 503960
to TY 123456)
< Back
Next >
Cancel

Fig. 20

Definition of Serial Number (barcode format)



7. Click **Next** , bring up Fig. 21.

Fig. 21

8. Click **Next** , bring up Fig. 22.
- Click **Finish** to exit the Step window.

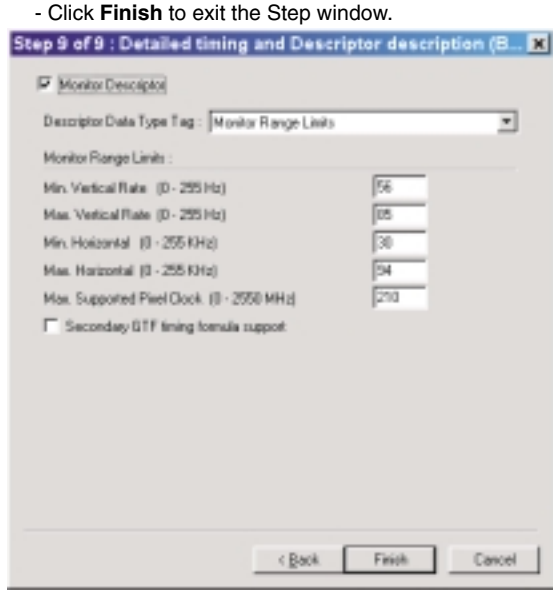

Step 9 of 9 : Detailed timing and Descriptor description (B...
Monitor Descriptor
Descriptor Data Type Tag : Monitor Range Limits
Monitor Range Limits :
Min. Vertical Rate (0 - 255 Hz) 56
Max. Vertical Rate (0 - 255 Hz) 85
Min. Horizontal (0 - 255 KHz) 30
Max. Horizontal (0 - 255 KHz) 94
Max. Supported Pixel Clock (0 - 2550 MHz) 220
Secondary GTF timing formula support
< Back
Finish
Cancel

Fig. 22

DDC Instructions (Continued)

Step 6: Write DDC data

1. Click (Write EDID) icon from the tool bar to write DDC data.
   Bring up "BLACK screen" for a few seconds.
2. Click (Read EDID) to re-confirm (check contents) it.

Step 7: Save DDC data

Sometimes, you may need to save DDC data as a text file for using in other IC chip. To save DDC data, follow the steps below:

1. Click (Save) icon (or click "file"-> "save as") from the tool bar and give a file name as shown in Fig. 23.

The file type is EDID301 file (*.ddc) which can be open in WordPad. By using WordPad, the texts of DDC data & table (128 bytes, hex code) can be modified. If DDC TEXTS & HEX Table are completely correct, it can be saved as .ddc flie to re-load it into DDC IC for DDC Data application.

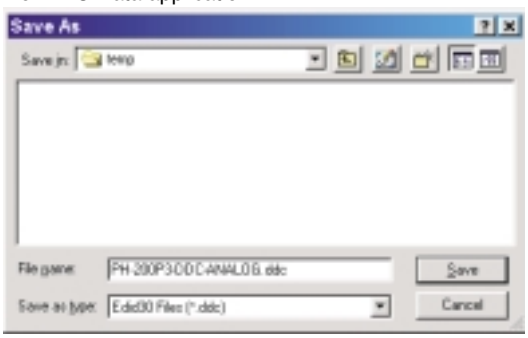


Fig. 23

2. Click **Save**.

Step 8: Load DDC data

1. Click from the tool bar.
2. Select the file you want to open as shown in Fig. 24.
3. Click **Open**.

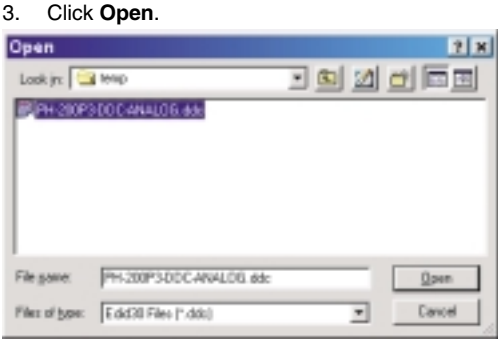


Fig. 24

Step 8: Exit DDC program

Pull down the File menu and select Exit as shown in Fig. 25.

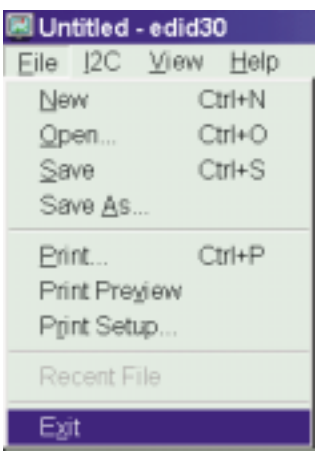


Fig. 25

Re-programming Digital DDC IC

Step 1: Connecting all cables and alignment box as shown in Fig. 26.

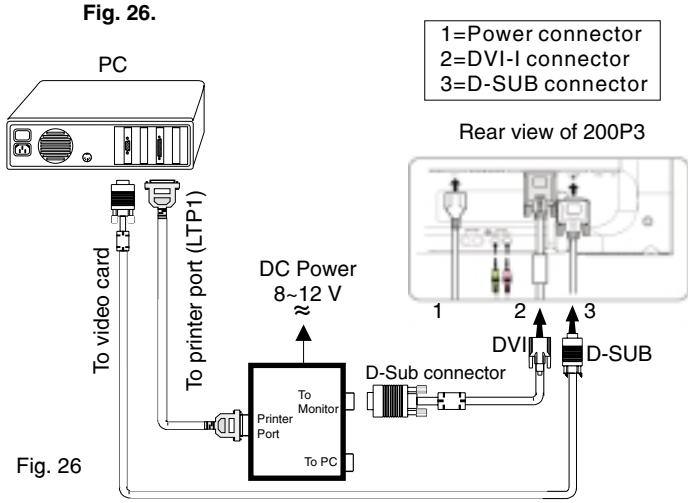


Fig. 26

After connection for Digital DDC application, if it is still in Analog DDC application of EDID301.
Exit EDID301 program before Digital DDC application.

Step 2: Initialize alignment box
(Shortcut of EDID301.EXE on Windows Wallpaper already.)

Double click EDID301 icon (as shown in Fig. 27) which is on the screen of Windows Wallpaper.
Bring up main menu of EDID301 as shown in Fig. 28.

Fig. 27

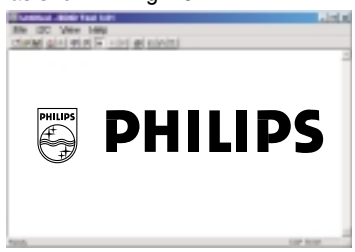
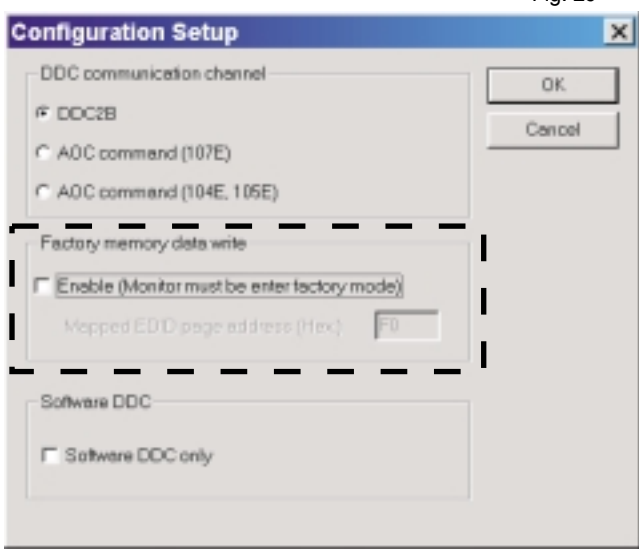


Fig. 28

Step 3: Read DDC data from monitor

1. Click icon from the tool bar to bring up the Channels Configuration Setup windows as shown in Fig. 28.
2. Select the DDC2B as the communication channel.
   Disable "Factory memory data write" for Digital DDC application as shown in Fig. 29.
3. Click OK button to confirm your selection.

Fig. 29



DDC Instructions (Continued)

4. Click icon (Read EDID function) to read DDC EDID data from monitor. The EDID codes will display on screen as shown in Fig. 30.

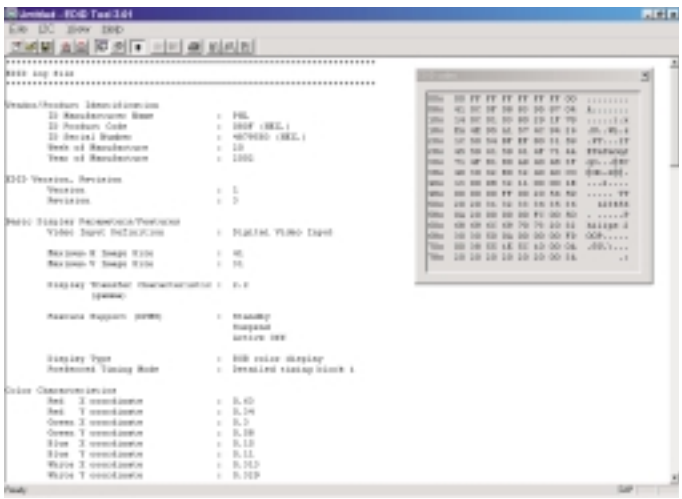
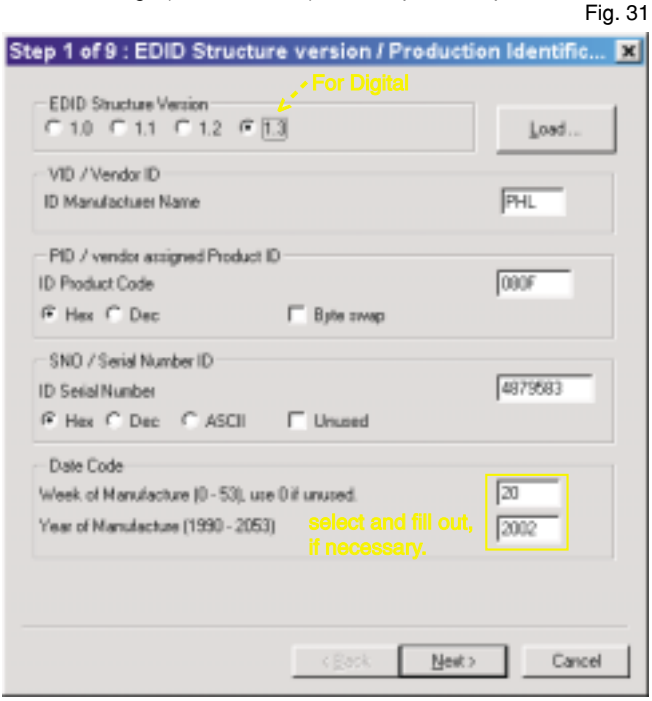


Fig. 30

Step 4: Modify DDC data (verify EDID version, week, year)

1. Click (new function) icon from the tool bar, bring up Step 1 of 9 (Digital) as shown in Fig. 31 .
EDID301 DDC application provides the function selection and text change (select & fill out) from Step 1 to Step 9.

Fig. 31



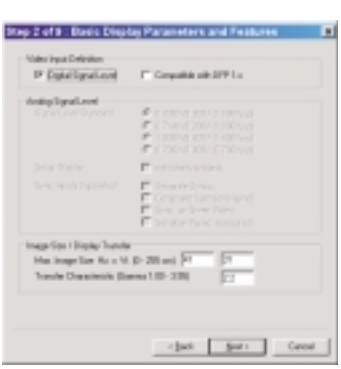


Fig. 32

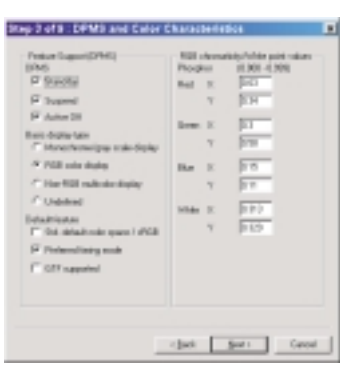


Fig. 33

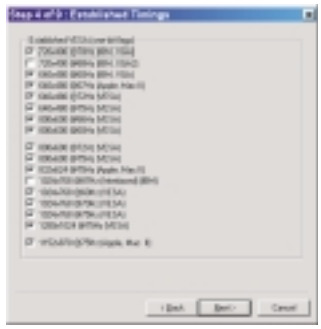


Fig. 34

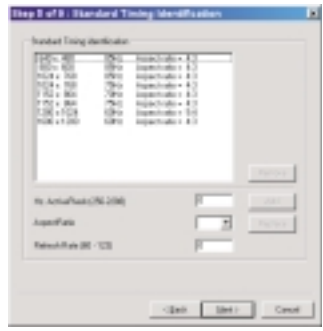


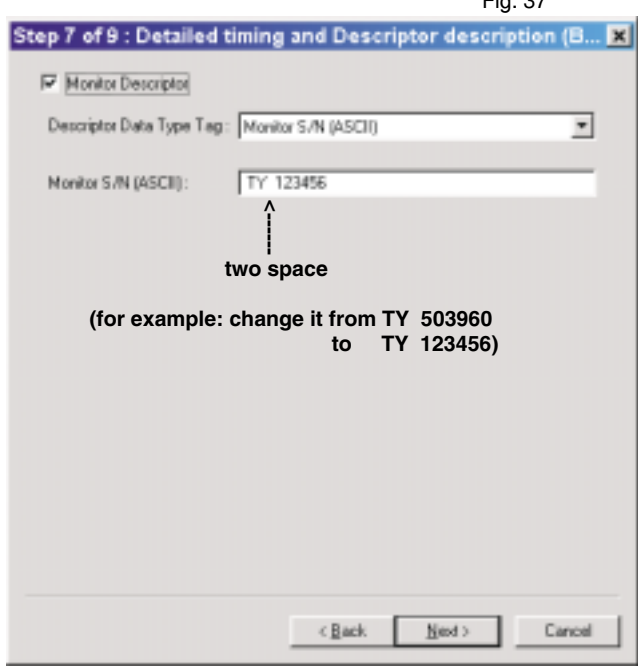
Fig. 35

Fig. 36

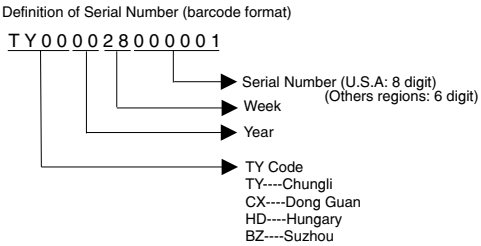
Step 5: Modify DDC data (Monitor Serial No.)

Monitor Serial No. can be filled up or be changed (for example, TY 123456) as shown in Fig. 37.

Fig. 37



Definition of Serial Number (barcode format)



DDC Instructions (Continued)

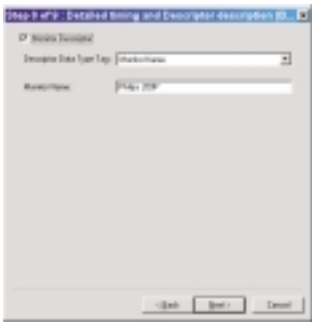


Fig. 38

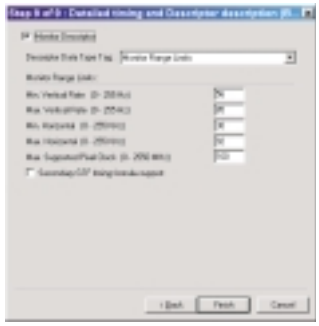


Fig. 39

Click **Finish** to exit the Step window as shown in Fig. 39.

Step 6: Write DDC data

1. Click (Write EDID) icon from the tool bar to write DDC data.
2. Click (Read EDID) to re-confirm (check contents) it.

   The 128bytes DDC data which had been written into DDC IC of Digital Mode.

Step 7: Save DDC data

Sometimes, you may need to save DDC data as a text file for using in other IC chip. To save DDC data, follow the steps below:

1. Click (Save) icon (or click "file"-> "save as") from the tool bar and give a file name as shown in Fig. 40.

2. Click **Save**.

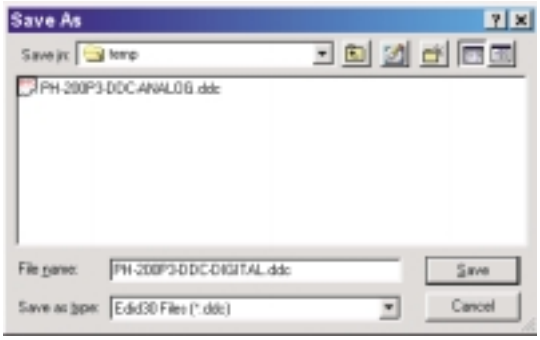


Fig. 40

Step 8: Load DDC data

1. Click from the tool bar.
2. Select the file you want to open as shown in Fig 41.
3. Click **Open**.

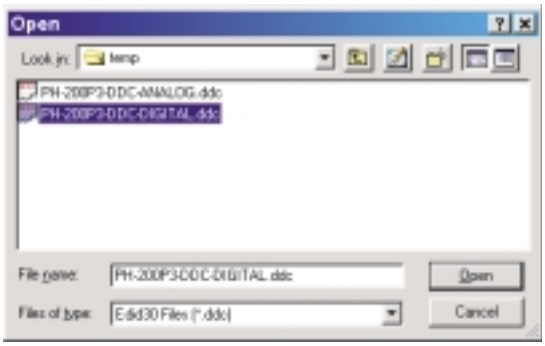


Fig. 41

Step 9: Exit DDC program

Pull down the File menu and select Exit as shown in Fig. 25.

The display of SERIAL NO. by OSD can be change/update by Analog Mode only.
It means "**Analog Mode and Digital Mode are using same EEPROM for display of SERIAL NO. by OSD" as shown in Fig. 42.**

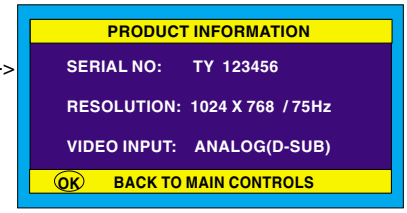


Fig. 42

****

Change/update the serial number which should be proceed by another application software.

****

DDC Data of Digital

****
EDID log file
****

Vendor/Product Identification
- ID Manufacturer Name : PHL
- ID Product Code : 080F (HEX.)
- ID Serial Number : 4879583 (HEX.)
- Week of Manufacture : 20
- Year of Manufacture : 2002

EDID Version, Revision
- Version : 1
- Revision : 3

Basic Display Parameters/Features
- Video Input Definition : Digital Video Input
- Maximum H Image Size : 41
- Maximum V Image Size : 31
- Display Transfer Characteristic (gamma) : 2.2
- Feature Support (DPMS) : Standby, Suspend, Active Off
- Display Type : RGB color display
- Preferred Timing Mode : Detailed timing block 1

Color Characteristics
- Red X coordinate : 0.63
- Red Y coordinate : 0.34
- Green X coordinate : 0.3
- Green Y coordinate : 0.58
- Blue X coordinate : 0.15
- Blue Y coordinate : 0.11
- White X coordinate : 0.313
- White Y coordinate : 0.329

Established Timings
- Established Timings I : 720 x 400 @70Hz (IBM,VGA)
  640 x 480 @60Hz (IBM,VGA)
  640 x 480 @67Hz (Apple,Mac II)
  640 x 480 @72Hz (VESA)
  640 x 480 @75Hz (VESA)
  800 x 600 @56Hz (VESA)
  800 x 600 @60Hz (VESA)
- Established Timings II : 800 x 600 @72Hz (VESA)
  800 x 600 @75Hz (VESA)
  832 x 624 @75Hz (Apple,Mac II)
  1024 x 768 @60Hz (VESA)
  1024 x 768 @70Hz (VESA)
  1024 x 768 @75Hz (VESA)
  1280 x 1024 @75Hz (VESA)
- Manufacturer's timings : 1152 x 870 @75Hz (Apple,Mac II)

Standard Timing Identification #1
- Horizontal active pixels : 640
- Aspect Ratio : 4:3
- Refresh Rate : 85

Standard Timing Identification #2
- Horizontal active pixels : 800
- Aspect Ratio : 4:3
- Refresh Rate : 85

Standard Timing Identification #3
- Horizontal active pixels : 1024
- Aspect Ratio : 4:3
- Refresh Rate : 85

Standard Timing Identification #4
- Horizontal active pixels : 1024
- Aspect Ratio : 4:3
- Refresh Rate : 75

Standard Timing Identification #5
- Horizontal active pixels : 1152
- Aspect Ratio : 4:3
- Refresh Rate : 70

Standard Timing Identification #6
- Horizontal active pixels : 1152
- Aspect Ratio : 4:3
- Refresh Rate : 75

Standard Timing Identification #7
- Horizontal active pixels : 1280
- Aspect Ratio : 5:4
- Refresh Rate : 60

Standard Timing Identification #8
- Horizontal active pixels : 1600
- Aspect Ratio : 4:3
- Refresh Rate : 60

Detailed Timing #1
- Pixel Clock (MHz) : 162
- H Active (pixels) : 1600
- H Blanking (pixels) : 560
- V Active (lines) : 1200
- V Blanking (lines) : 50
- H Sync Offset (F Porch) (pixels) : 64
- H Sync Pulse Width (pixels) : 192
- V Sync Offset (F Porch) (lines) : 1
- V Sync Pulse Width (lines) : 3
- H Image Size (mm) : 408
- V Image Size (mm) : 306
- H Border (pixels) : 0
- V Border (lines) : 0
- Flags : Non_interlaced
  Normal Display, No stereo
  Digital Separate sync.
  Positive Vertical Sync.
  Positive Horizontal Sync.

Monitor Descriptor #2
- Serial Number : TY 123456

Monitor Descriptor #3
- Monitor Name : Philips 200P

Monitor Descriptor #4
- Monitor Range Limits
- Min. Vt rate Hz : 56
- Max. Vt rate Hz : 85
- Min. Horiz. rate kHz : 30
- Max. Horiz. rate kHz : 92
- Max. Supported Pixel : 160

No secondary GTF timing formula supported.

Extension Flag : 0
Check sum : 3A (HEX.)

****
EDID data (128 bytes)
****

```
 0: 00  1: ff  2: ff  3: ff  4: ff  5: ff  6: ff  7: 00
 8: 41  9: 0c 10: 0f 11: 08 12: 83 13: 95 14: 87 15: 04
16: 14 17: 0c 18: 01 19: 03 20: 80 21: 29 22: 1f 23: 78
24: ea 25: 4e 26: 95 27: a1 28: 57 29: 4c 30: 94 31: 26
32: 1c 33: 50 34: 54 35: bf 36: ef 37: 80 38: 31 39: 59
40: 45 41: 59 42: 61 43: 59 44: 61 45: 4f 46: 71 47: 4a
48: 71 49: 4f 50: 81 51: 80 52: a9 53: 40 54: 48 55: 3f
56: 40 57: 30 58: 62 59: b0 60: 32 61: 40 62: 40 63: c0
64: 13 65: 00 66: 98 67: 32 68: 11 69: 00 70: 00 71: 1e
72: 00 73: 00 74: 00 75: ff 76: 00 77: 20 78: 54 79: 59
80: 20 81: 20 82: 31 83: 32 84: 33 85: 34 86: 35 87: 36
88: 0a 89: 20 90: 00 91: 00 92: 00 93: fc 94: 00 95: 50
96: 68 97: 69 98: 6c 99: 69 100: 70 101: 73 102: 20 103: 32
104: 30 105: 30 106: 50 107: 0a 108: 00 109: 00 110: 00 111: fd
112: 00 113: 38 114: 55 115: 1e 116: 5c 117: 10 118: 00 119: 0a
120: 20 121: 20 122: 20 123: 20 124: 20 125: 20 126: 00 127: 3a
```

DDC Data of Analog

Go to cover page

****
EDID log file
****

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- ID Product Code : 080C (HEX.)
- ID Serial Number : 4879583 (HEX.)
- Week of Manufacture : 20
- Year of Manufacture : 2002

EDID Version, Revision
- Version : 1
- Revision : 3

Basic Display Parameters/Features
- Video Input Definition : Analog Video Input
  0.700V/0.300V (1.00Vpp)
  without Blank_to_Black Setup
  Separate Sync
  Composite Sync
  Sync on Green
  Serration required
- Maximum H Image Size : 41
- Maximum V Image Size : 31
- Display Transfer Characteristic (gamma) : 2.2
- Feature Support (DPMS) : Standby
  Suspend
  Active Off
- Display Type : RGB color display
- Preferred Timing Mode : Detailed timing block 1

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  640 x 480 @72Hz (VESA)
  640 x 480 @75Hz (VESA)
  800 x 600 @56Hz (VESA)
  800 x 600 @60Hz (VESA)
- Established Timings II : 800 x 600 @72Hz (VESA)
  800 x 600 @75Hz (VESA)
  832 x 624 @75Hz (Apple,Mac II)
  1024 x 768 @60Hz (VESA)
  1024 x 768 @70Hz (VESA)
  1024 x 768 @75Hz (VESA)
  1280 x 1024 @75Hz (VESA)
- Manufacturer's timings : 1152 x 870 @75Hz (Apple,Mac II)

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- Horizontal active pixels : 640
- Aspect Ratio : 4:3
- Refresh Rate : 85

Standard Timing Identification #2
- Horizontal active pixels : 800
- Aspect Ratio : 4:3
- Refresh Rate : 85

Standard Timing Identification #3
- Horizontal active pixels : 1024
- Aspect Ratio : 4:3
- Refresh Rate : 85

Standard Timing Identification #4
- Horizontal active pixels : 1152
- Aspect Ratio : 4:3
- Refresh Rate : 70

Standard Timing Identification #5
- Horizontal active pixels : 1152
- Aspect Ratio : 4:3
- Refresh Rate : 75

Standard Timing Identification #6
- Horizontal active pixels : 1280
- Aspect Ratio : 5:4
- Refresh Rate : 60

Standard Timing Identification #7
- Horizontal active pixels : 1600
- Aspect Ratio : 4:3
- Refresh Rate : 75

Detailed Timing #1
- Pixel Clock (MHz) : 203
- H Active (pixels) : 1600
- H Blanking (pixels) : 560
- V Active (lines) : 1200
- V Blanking (lines) : 50
- H Sync Offset (F Porch) (pixels) : 64
- H Sync Pulse Width (pixels) : 192
- V Sync Offset (F Porch) (lines) : 1
- V Sync Pulse Width (lines) : 3
- H Image Size (mm) : 408
- V Image Size (mm) : 306
- H Border (pixels) : 0
- V Border (lines) : 0
- Flags : Non_interlaced
  : Normal Display, No stereo
  : Digital Separate sync.
  : Positive Vertical Sync.
  : Positive Horizontal Sync.

Monitor Descriptor #2
- Serial Number : TY 123456

Monitor Descriptor #3
- Monitor Name : Philips 200P

Monitor Descriptor #4
- Monitor Range Limits
- Min. Vt rate Hz : 56
- Max. Vt rate Hz : 85
- Min. Horiz. rate kHz : 30
- Max. Horiz. rate kHz : 94
- Max. Supported Pixel : 210

No secondary GTF timing formula supported.

Extension Flag : 0
Check sum : 32 (HEX.)

****
EDID data (128 bytes)
****

```
 0: 00  1: ff  2: ff  3: ff  4: ff  5: ff  6: ff  7: 00
 8: 41  9: 0c 10: 0c 11: 08 12: 83 13: 95 14: 87 15: 04
16: 14 17: 0c 18: 01 19: 03 20: 0f 21: 29 22: 1f 23: 78
24: ea 25: 4e 26: 95 27: a1 28: 57 29: 4c 30: 94 31: 26
32: 1c 33: 50 34: 54 35: bf 36: ef 37: 80 38: 31 39: 59
40: 45 41: 59 42: 61 43: 59 44: 71 45: 4a 46: 71 47: 4f
48: 81 49: 80 50: a9 51: 4f 52: 01 53: 01 54: 4c 55: 4f
56: 40 57: 30 58: 62 59: b0 60: 32 61: 40 62: 40 63: c0
64: 13 65: 00 66: 98 67: 32 68: 11 69: 00 70: 00 71: 1e
72: 00 73: 00 74: 00 75: ff 76: 00 77: 20 78: 54 79: 59
80: 20 81: 20 82: 31 83: 32 84: 33 85: 34 86: 35 87: 36
88: 0a 89: 20 90: 00 91: 00 92: 00 93: fc 94: 00 95: 50
96: 68 97: 69 98: 6c 99: 69 100: 70 101: 73 102: 20 103: 32
104: 30 105: 30 106: 50 107: 0a 108: 00 109: 00 110: 00 111: fd
112: 00 113: 38 114: 55 115: 1e 116: 5e 117: 15 118: 00 119: 0a
120: 20 121: 20 122: 20 123: 20 124: 20 125: 20 126: 00 127: 32
```

Serial number application

The display of SERIAL NO. by OSD can be change/update by another application software only.
Analog Mode and Digital Mode are using same EEPROM(pos. 7463) for display of SERIAL NO. by OSD" as shown in Fig. 1.

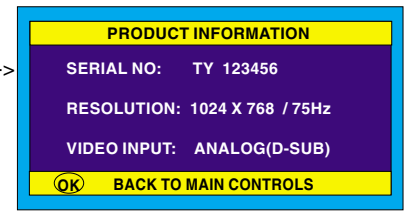


Fig. 1 (example, SERIAL NUMBER by OSD)

****

Change/update the serial number which should be proceed by application software "SerialNumber.exe" as shown in Fig. 2..

****

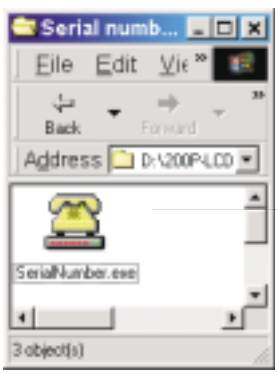


Fig. 2

Connection: for Serial Number application

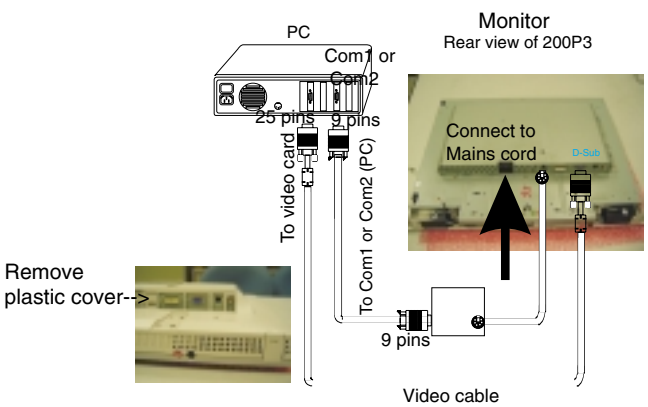


Fig. 3

Step 1: Double click "SerialNumber.exe"

Bring up: Fig. 4

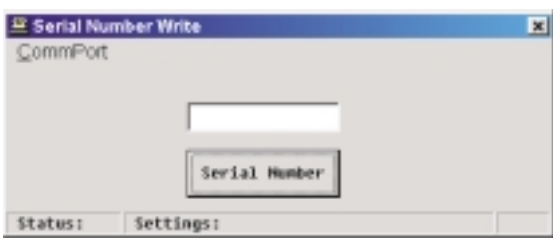


Fig. 4

Fill out serial number of monitor.
For example "TY 876543" as shown in Fig. 5.

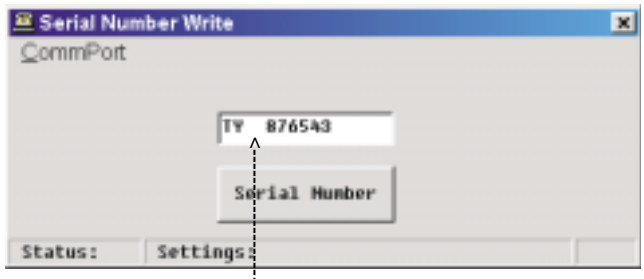


Fig. 5 (two space)

Step 2: Click "Serial Number" as shown in Fig. 6.

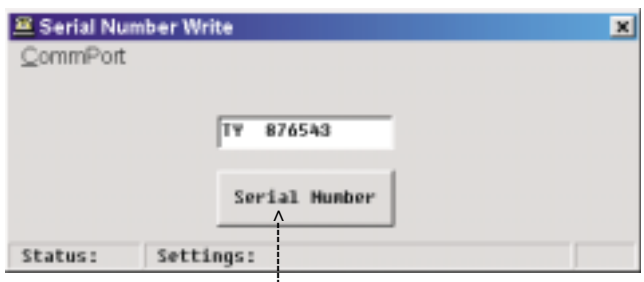


Fig. 6 (click "Serial Number")

Bring up Fig. 7 with "57600,n,8,1 Com1"

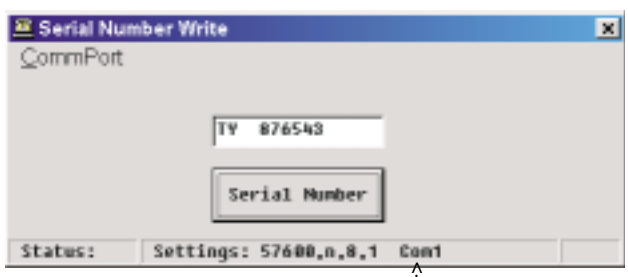


Fig. 7 (Com port for application)

Step 3: Verify "Serial Number" by OSD as shown in Fig. 8,9.

Fig. 8

Press OK button
=>select "PRODUCT INFORMATION"
=>press OK button

Bring up :
Fig. 9 for verification.

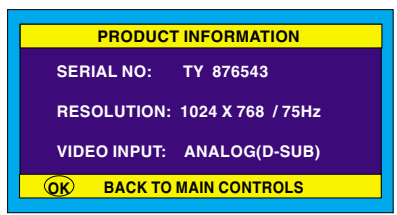
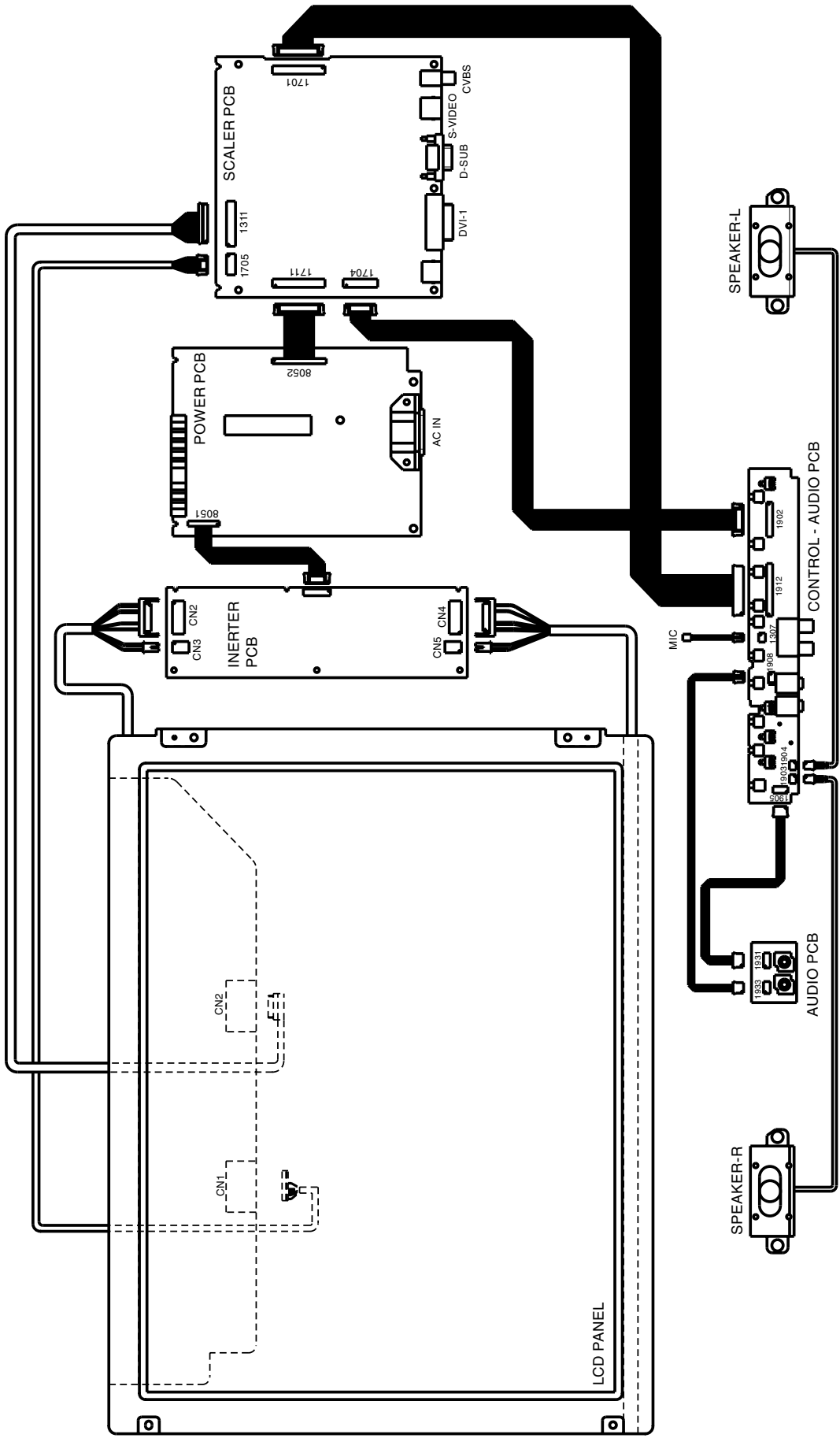


Fig. 9

Wiring Diagram

Go to cover page

Model : 200P3G/00C



Mechanical Instructions

Front view as shown in Fig. 1.

Fig. 1

Rear view as shown in Fig. 2.

Step 1 :
Disconnect and remove the signal and power cables from the back of the monitor as shown in Fig. 2.

Fig. 2

Step 2 :
1. **Lay the front bezel down** on a soft area to prevent it from getting scratched, defaced, or broken.
2. Remove the 4 screws as shown in Fig. 3.
3. Remove the monitor base from the monitor as shown in Fig. 4.

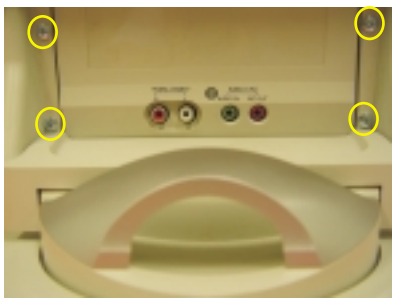


Fig. 3 (Before)

base assembly-------->

Fig. 4 (After)

Step 3 :
1. **Lay the front bezel down** on a soft area to prevent it from getting scratched, defaced, or broken.
2. Remove 5 screws as shown in Fig. 5.

Fig. 5

Step 4 :
Turn the set over and release all the plastic clips (12 claws) by plastic scew and hands as shown in Fig. 6,7,8,9 & 10.

Rear cover==>

Fig. 6 (Bottom side view)

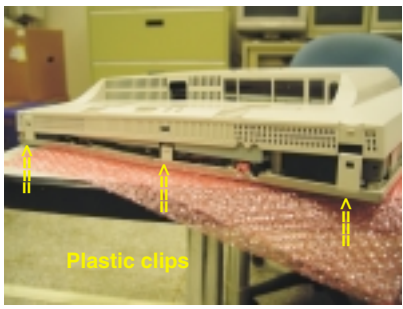


Fig. 7 (Bottom side view)

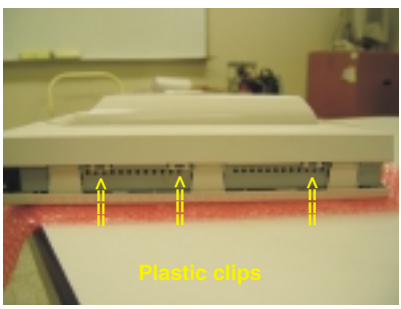


Fig. 8 (Left side view)

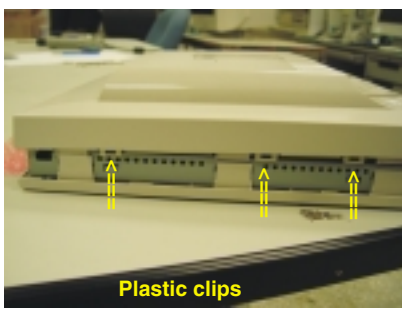


Fig. 9 (Right side view)

Step 5 :
Remove rear cover.

Rear cover==>

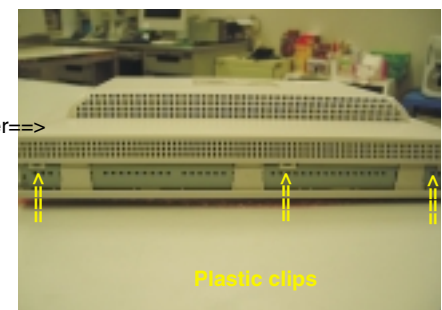


Fig. 10 (Top side view)

Mechanical Instructions (Continued)

Go to cover page

Step 6 :
Remove 10 screws
as shown in Fig. 11.

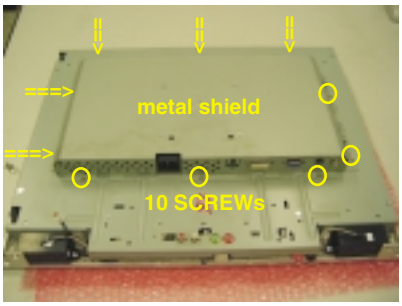


Fig. 11 (metal shield)

Step 7 :
After removing metal shield, inverter, power & scaler board are as shown in Fig. 12.

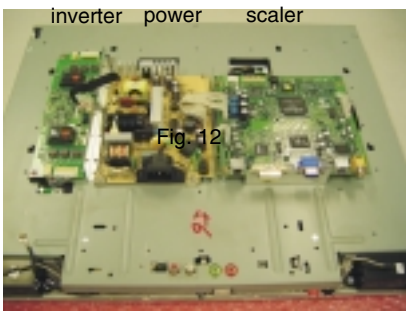


Fig. 12

Step 8 :
Remove 5 screws and disconnect the connectors, then Scaler board can be taken out as shown in Fig. 13.

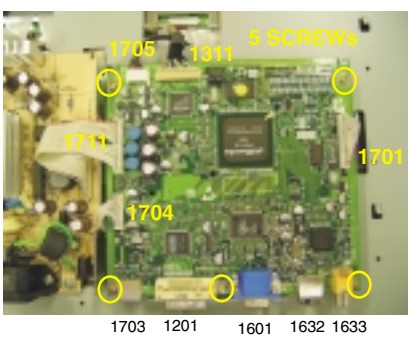


Fig. 13

Step 9 :
Disconnect CN1~CN5 on inverter board and remove 3 screws, inverter board can be taken out as shown in Fig. 14.

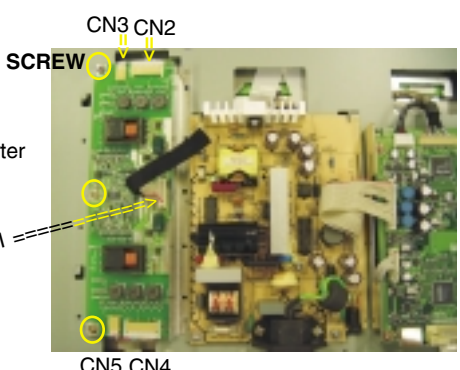


Fig. 14

Step 10 :
Remove 3 screws and disconnect the connectors, then Power board can be taken out as shown in Fig. 15.

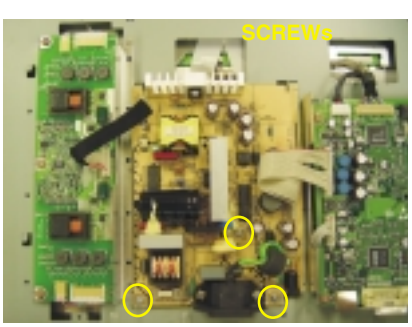


Fig. 15

Step 11 :
Inverter,power & scaler board are as shown in Fig. 16.

Step 12 :
Remove a screw as shown in Fig. 16.

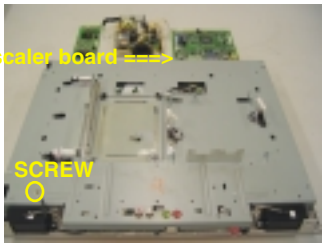


Fig. 16

Step 13 :
Turn the "Panel with metal shield", then remove the Front Bezel (plastic clip) as shown in Fig. 17.

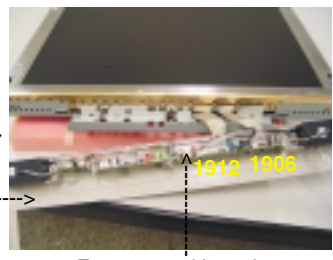


Fig. 17

Step 14 :
Remove 4 screws as shown in Fig. 18.

Fig. 18

Step 15 :
Turn the panel again, remove metal frame of LCD panel as shown in Fig. 19.

Step 16 :
Remove 2 screws as shown in Fig. 19.

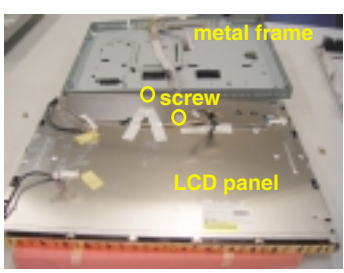


Fig. 19

PCB assembly ---------->

PCB assembly of LCD panel as shown in Fig. 20.

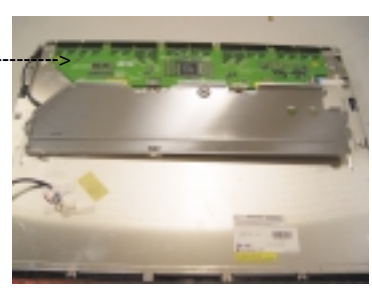


Fig. 20

****
In warranty, it is not allowed to disassembly the LCD panel, even the "Backlight unit" defect.
****

Warning and Notes

Warnings

1. Safety regulations require that the unit should be returned in its original condition and that components identical to the original components are used. The safety components are indicated by the symbol ⚠ .

2. In order to prevent damage to ICs and transistors, all high-voltage flash-overs must be avoided. In order to prevent damage to the picture tube, the method shown in Fig. 1 should be used to discharge the picture tube. Use a high-voltage probe and a multimeter (position DC-V). Discharge until the meter reading is **0 V** (after approximately 30 seconds).

3. **ESD**
All ICs and many other semiconductors are sensitive to electrostatic discharges (ESD). Careless handling during repair can drastically shorten their life. Make sure that during repair you are connected by a pulse band with resistance to the same potential as the ground of the unit. Keep components and tools also at this same potential.

4. When repairing a unit, always connect it to the AC Power voltage via an isolating transformer.

5. Be careful when taking measurements in the high-voltage section and on the picture tube panel.

6. It is recommended that saferty goggles be worn when replacing the picture tube.

7. When making adjustments,use plastic rather than metal tools. This will prevent any short-circuit or the danger of a circuit becoming unstable.

8. Never replace modules or other components while the unit is switched on.

9. Together with the defleciton unit, the picture tube is used as an integrated unit. Adjustment of this unit during repair is not recommended.

10. After repair, the wiring should be fastened in place with the cable clamps.

11. All units that are returned for service or repair must pass the original manufactures safety tests.

Notes

1. The direct voltages and waveforms are average voltages. They have been measured using the Service test software and under the following conditions :
   - Mode : 640 * 480 (31.5kHz / 60Hz)
   - Signal pattern : grey scale
   - Adjust brightness and contrast control for the mechanical mid-position (click position)

2. The picture tube panel has printed spark gaps. Each spark gap is connected between an electrode of the picture tube and the Aquadag coating.

3. The semiconductors indicated in the circuit diagram(s) and in the parts lists are completely interchangeable per position with the semiconductors in the unit, irrespective of the type indication on these semiconductors.

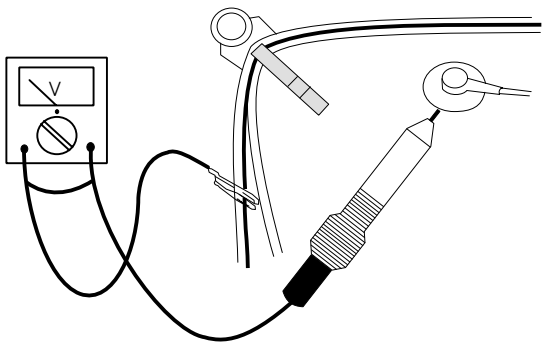


Fig.1 (CRT ONLY)

Electrical Instructions

Go to cover page

0. General

When carry-out the electrical settings in many cases a video signal must be applied to the monitor. A computer with :

- ATI VGA 1024 V6-1.04/PH BETA4 interface card
- PGA 1024 (4822 212 30916), Mach 8.
- PGA 1280 (4822 212 30917), Mach 32.
- ATI GPT-1600 (4822 397 10065), Mach 64 (up to 107kHz)

are used as the video signal source. The signal patterns are selected from the "service test software" package, see user guide 4822 727 19896 (ATI1024), or 4822 727 20273 (PGA 1280), or 4822 727 21046 (GPT-1600).

0.1 **With normal VGA card:**

If not using the ATI card during repair or alignment, The service engineer also can use this service test software adapting with normal standard VGA adaptor and using standard VGA mode 640 x 480, 31.5 kHz/60 Hz (only) as signal source.

0.2 **AC/DC Measurement:**

The measurements for AC waveform and DC figure is based on 640 x 480 31.5 kHz/60 Hz resolution mode with test pattern "16 gray scale".
Power input: 110V AC

General points

1.1 During the test and measuring, supply a distortion free AC mains voltage to the apparatus via an isolated transformer with low internal resistance.
1.2 All measurements mentioned hereafter are carried out at a normal mains voltage (90 - 132 VAC for USA version, 195 -264 VAC for EUROPEAN version, or 90 - 264 VAC for the model with full range power supply, unless otherwise stated.)
1.3 All voltages are to be measured or applied with respect to ground, unless otherwise stated.
Note: don't use heat-sink as ground.
1.4 The test has to be done on a complete set including LCD panel in a room with temperature of 25 +/- 5 degree C.
1.5 All values mentioned in these test instruction are only applicable of a well aligned apparatus, with correct signal.
1.6 The letters symbols (B) and (S) placed behind the test instruction denotes
(B): carried out 100% inspection at assembly line
(S): carried out test by sampling
1.7 The white balance (color temperature), has to be tested in subdued lighted room.
1.8 Repetitive power on/off cycle are allowed.

2. Input signal
Signal type

2.1.1 Analog Video : 0.7 Vp-p linear, positive polarity
Sync. : TTL level, separate, positive or negative polarity
Signal source: pattern generator format as attachment.
(table 1 to 47) Reference generator : QuantumData 802G
2.1.2 Digital Video :600mVp-p TMDS Signal
2.1.3 CVBS Video :1Vp-p,75 Ohm
2.1.4 S-Video :Y-1Vp-p,75 Ohm
C-0.3Vp-p,75 Ohm
2.1.5 Audio Signal : For S-terminal L/R audio input
PC line in
Microphone in

2.2 Input signal mode

(1) Factory Preset Modes (19 modes)

Item	H.Freq. (KHz)	Mode	Resolution	V.Freq. (Hz)
1	31.469	IBM VGA 10H	640x350	70.086
2	31.469	IBM VGA 3H	720x400	70.087
3	31.469	IBM VGA 12H	640x480	59.940
4	35.000	MACINTOSH	640x480	67.000
5	37.500	VESA	640x480	75.000
6	35.156	VESA	800x600	56.250
7	37.879	VESA	800x600	60.317
8	46.875	VESA	800x600	75.000
9	49.700	MACINTOSH	832x624	75.000
10	48.363	VESA	1024x768	60.004
11	60.023	VESA	1024x768	75.029
12	68.700	MACINTOSH	1152x870	75.000
13	71.810	SUN WS	1152x900	76.150
14	63.981	VESA	1280x1024	60.020
15	79.976	VESA	1280x1024	75.025
16	91.1	VESA	1280x1024	85
17	75.0	VESA	1600x1200	60
18	93.8	VESA	1600x1200	75
19	31.250	TV-PAL	688x556	50.

(2) Preset Modes (47 modes)

Item	H.Freq. (KHz)	Mode	Resolution	V.Freq. (Hz)	Item	H.Freq. (KHz)	Mode	Resolution	V.Freq. (Hz)
1	31.469	IBM VGA 10H	640x350	70.086	26	71.810	SUN WS	1152x900	76.150
2	31.469	IBM VGA 3H	720x400	70.087	27	59.673	SUN WS	1280x768	72.000
3	31.469	IBM VGA 12H	640x480	59.940	28	60.000	VESA	1280x960	60.000
4	35.000	MACINTOSH	640x480	67.000	29	75.000	VESA	1280x960	75.000
5	37.861	VESA	640x480	72.809	30	85.939	VESA	1280x960	85.002
6	37. 500	VESA	640x480	75.000	31	63.981	VESA	1280x1024	60.020
7	43.269	VESA	640x480	85.008	32	71.691	SUN WS	1280x1024	67.189
8	35.156	VESA	800x600	56.250	33	76.000	DOS/V	1280x1024	72.000
9	37.879	VESA	800x600	60.317	34	79.976	VESA	1280x1024	75.025
10	48.077	VESA	800x600	72.188	35	81.130	SUN WS	1280x1024	76.110
11	46.875	VESA	800x600	75.000	36	91.1	VESA	1280x1024	85
12	53.674	VESA	800x600	85.061	37	80.000	MACINTOSH	1360x1024	75.000
13	49.700	MACINTOSH	832x624	75.000	38	70.794	SUN WS	1440x900	76.000
14	81.1	SUN WS	960x680	112.000	39	78.66	SUN WS	1600x1000	76.000
15	48.363	VESA	1024x768	60.004	40	68.31	SUN WS	1600x1000	66.000
16	56.476	VESA	1024x768	70.069	41	84.000	MACINTOSH	1600x1200	69.000
17	60.023	VESA	1024x768	75.029	42	80.000	DOS/V	1600x1200	60.000
18	61.080	IBM XGA 2	1024x768	75.781	43	75.0	VESA	1600x1200	60
19	68.677	VESA	1024x768	84.997	44	81.3	VESA	1600x1200	65
20	68.820	SUN WS	1024x768	87.000	45	87.5	VESA	1600x1200	70
21	54.1		1152x864	60	46	93.8	VESA	1600x1200	75
22	63.851	VESA	1152x864	70012	47	31.250	TV-PAL	688x556	50
23	67.500	VESA	1152x864	75.000					
24	68.700	MACINTOSH	1152x870	75.000					
25	61.845	SUN WS	1152x900	66.004					

Electrical Instructions (Continued)

3. AC, DC Adaptor
3.1 Setup the AC I/P at 90VAC, and Output DC loading at 3.33Amp, The DC output voltage is 18.0 0.9 V DC, Adjusting is no need.
3.2 DC setting
3.01 Detach 8052 to the scaler board before testing the function.
3.02 Apply 1.2Amp 18V DC voltage to 1105. (B)
3.03 Connect inverter board to 8051 (B)
3.04 Check voltage at C2067 should be within the range 5V +/- 0.2V (B)
3.05 Check voltage at C2077 should be within the range 3.3V +/- 0.15V (B)

4. Display Adjustment
4.1Input signals check
In factory mode, use 64 gray level and set the R,G,B gain to 100%.
4.2 Display quality test
Use timing mode as describe in 2.2, and use the pixel on / off pattern to adjust the clock until no stripe and adjust the phase until clear picture.
Check all pre-setting 19 modes.

4.2.1 SOG mode test : Use following timing for SOG test

64 KHz/60Hz, 1280 X 1024, pixel=108 MHz

Horizontal		Vertical	
Frame border =	0	Frame border =	0
Total size =	15.620ms	Total size =	16.670 ms
Display size =	11.852ms	Display size =	16.000 ms
Rear porch =	2.000ms	Rear porch =	0.580 ms
Sync width =	1.000ms	Sync width =	0.080 ms
Sync polarity =	-	Sync polarity =	-
		Sync on green	

4.3 Check of WHITE-D (B)

Apply a 1280*1024 / 60Hz signal with gray 64 pattern, set brightness control at 100%, and contrast control at 50%. Adjust the R,G,B sub_gain, for the screen center,
the 1931 CIE chromaticity (X, Y) co-ordinates shall be;

	9300° K		6500° K	
x (center)	0.281	0.015	0.312	0.015
y (center)	0.311	0.015	0.338	0.015

Use Minolta CA-110 for color coordinates and luminance check.
Luminance : 200 Nits in the center of the screen when brightness at 100% and contrast set to 100%.
4.4 Check the digital interface
Check the 64 gray level color poor & noise condition.

Please refer to General Product Specification for timing table 1~47.
TIMING FOR HUDSON 200P 20" TFT UXGA COLOR LCD MONITOR
(VESA monitor timing standard Version 1.0 Release 0.7)

REFERENCE PATTERN GENERATOR : QuantumData 802G

5. PIN ASSIGNMENT OF VARIOUS WAFERS
5.1.1 PIN ASSIGNMENT OF INVERTER & WAFER 8051

PIN No.	SIGNAL (INVERTER BOARD)
1	backlight power (18V)
2	backlight power (18V)
3	backlight power (18V)
4	backlight GND
5	backlight GND
6	backlight GND
7	backlight brightness ; 3.3V :8.0mA 0.5mA 0V :3.0mA 0.4mA
8	backlight ;ON/OFF control :ON>2V,OFF<1V

PIN No.	SIGNAL (WAFER 8051)
1	backlight power (18V)
2	backlight power (18V)
3	backlight power (18V)
4	backlight GND
5	backlight GND
6	backlight GND
7	backlight brightness ; 3.3V :8.0mA 0.5mA 0V :3.0mA 0.4mA
8	backlight ;ON/OFF control :ON>2V,OFF<1V

5.1.2 PIN ASSIGNMENT OF WAFER 8052

PIN No.	SIGNAL (WAFER 8052)
1	LIGHT_BRI_CTL
2	LIGHT_PWR_CTL
3	GND
4	DC_SW
5	+3.3V
6	GND
7	+3.3V
8	GND
9	+5V
10	+5V
11	GND
12	GND
13	+18V
14	+18V
15	GND
16	GND

Electrical Instructions (Continued)

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5.1.3 PIN ASSIGNMENT OF WAFER TO CONTROL BOARD

PIN No.	SIGNAL (WAFER 1701)
1	OSD
2	UP
3	DOWN
4	RIGHT
5	LEFT
6	AUTO
7	PIP
8	SOURCE
9	DCSW1
10	MUTEIN
11	GND
12	POWER LED
13	SLEEP LED
14	PC LED
15	VIDEO LED
16	GND

5.1.4 PIN ASSIGNMENT OF WAFER TO CONTROL BOARD

PIN No.	SIGNAL (WAFER 1704)
1	+18V
2	+18V
3	GND
4	GND
5	AUDIOMUX
6	AUDIOPW
7	VOLUME
8	MUTEOUT
9	DCSW2
10	GND

5.1.5 PIN ASSIGNMENT OF WAFER TO PANE

PIN No.	SIGNAL (WAFER 1705)
1	GND
2	GND
3	LCM18V
4	LCM18V
5	GND
6	GND

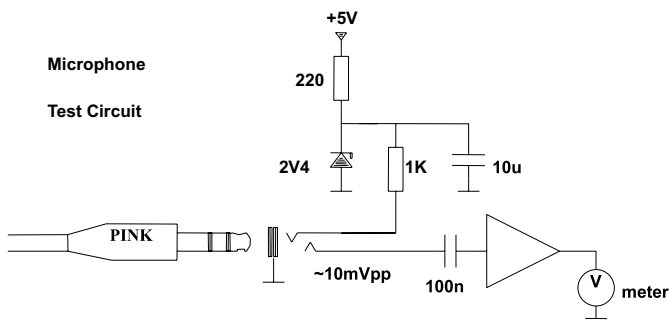
6. Microphone test (B)

The aim of the set-up below is to test whether the microphone is operating correctly.

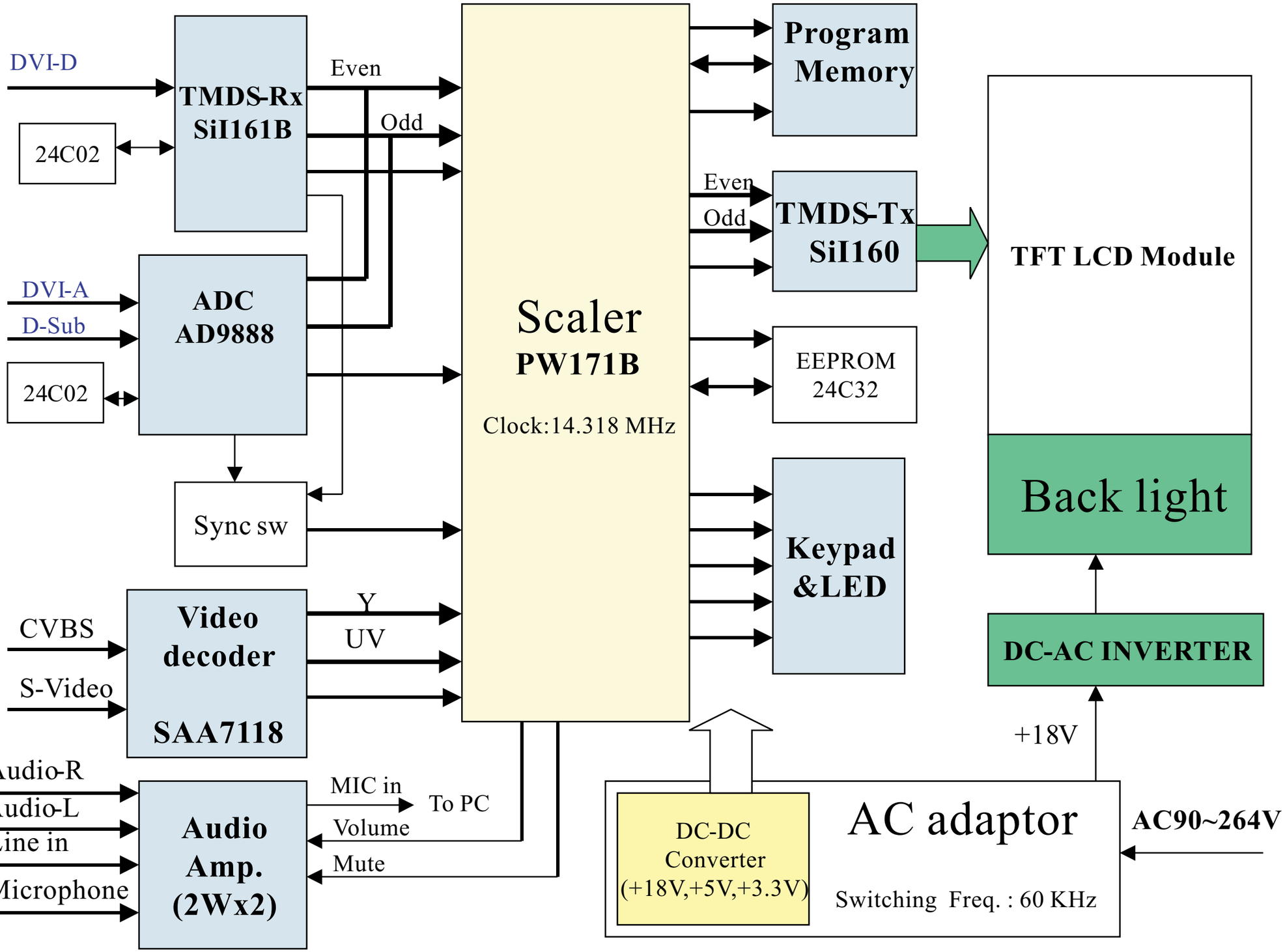
Connect the microphone pink plug to a signal measuring equipment with incorporate DC bias according circuit below:
Place a reference sine wave sound source close to the microphone openings and check the microphone output for correct output signal.

Please note that the microphone has two openings: One at front and one at the bottom. The reference sound source should be positioned in such a way that the sound reaches both openings.

The actual quality of microphone can only be checked by recording and listening tests, using PC software like Microsoft Sound Recorder (available in Windows'98/95 Multimedia menu)



Block diagram of Hudson2-200P3



Schematic PWB(Components side view)

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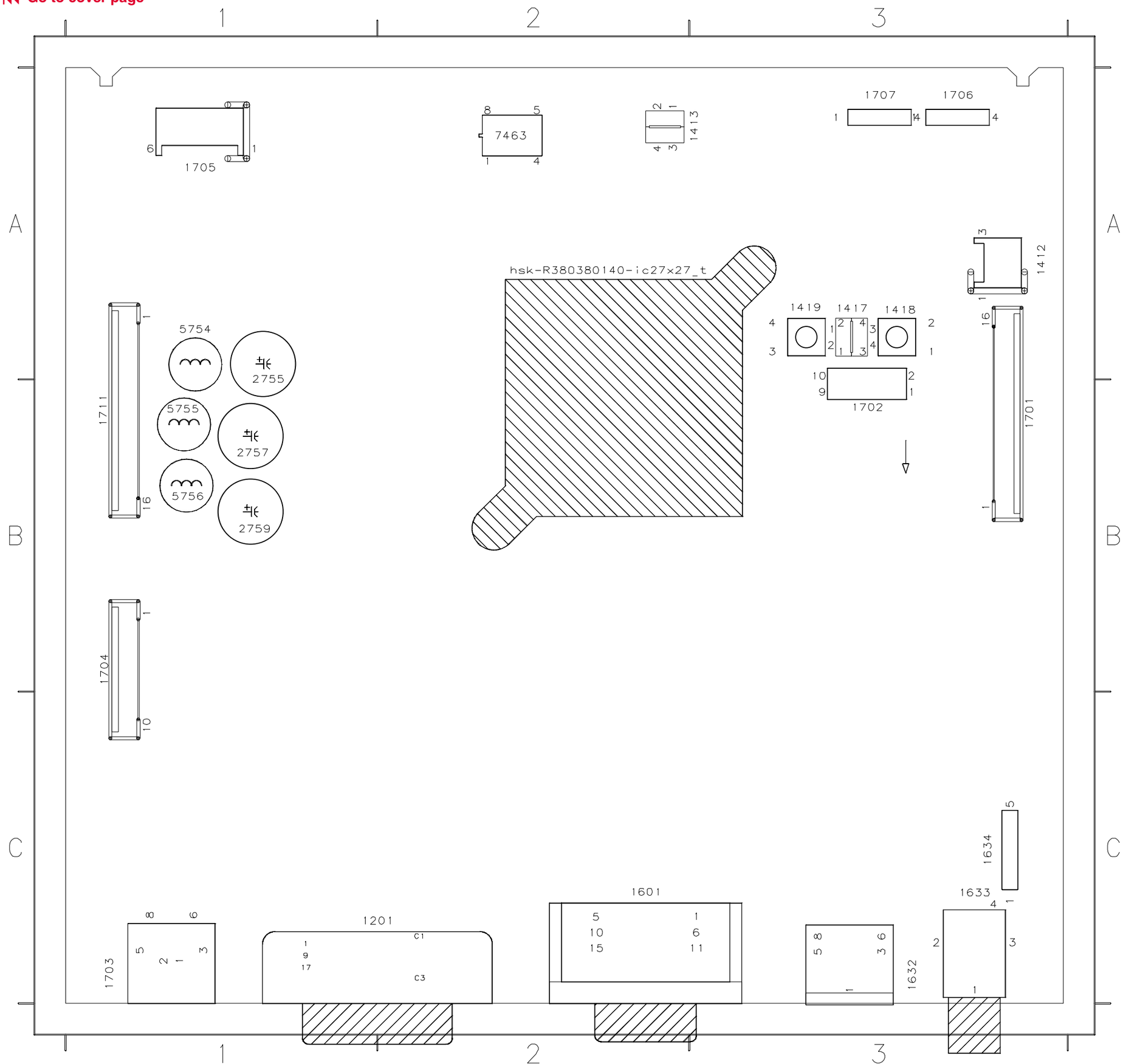

# REF	GRID	BOARD SIDE											
1201	C1	B	1311	A1	B	2710	B3	B	3406	A2	B	5251	C3	B
1412	A3	B	1401	A2	B	2711	B3	B	3407	B2	B	5252	C3	B
1413	A3	B	1414	A3	B	2712	B3	B	3408	A2	B	5301	C1	B
1417	A3	B	1631	C3	B	2714	A3	B	3409	B2	B	5302	C1	B
1418	A3	B	2203	C1	B	2717	C1	B	3410	B2	B	5303	C1	B
1419	A3	B	2204	C2	B	2718	C1	B	3411	B2	B	5304	C2	B
1601	C2	B	2208	A1	B	2719	B1	B	3412	B2	B	5341	A1	B
1632	C3	B	2209	C1	B	2720	B1	B	3413	B2	B	5342	A1	B
1633	C3	B	2210	C1	B	2721	B1	B	3414	B2	B	5343	A2	B
1634	C3	B	2212	C1	B	2722	B1	B	3416	A2	B	5344	A1	B
1701	B3	B	2215	C2	B	2723	B1	B	3417	A2	B	5345	B2	B
1702	B3	B	2216	C2	B	2724	B1	B	3419	A3	B	5461	A2	B
1703	C1	B	2249	C2	B	2725	B1	B	3421	A3	B	5604	C3	B
1704	B1	B	2251	C3	B	2730	A1	B	3422	A3	B	5631	B3	B
1705	A1	B	2252	C3	B	2731	A1	B	3424	A3	B	5632	B3	B
1706	A3	B	2253	C3	B	2732	A3	B	3425	B2	B	5633	C3	B
1707	A3	B	2254	B3	B	2733	A3	B	3462	A2	B	5752	A1	B
1711	B1	B	2255	C3	B	2734	C1	B	3463	A2	B	5757	B1	B
2755	A1	B	2256	C3	B	2751	A1	B	3464	A3	B	5758	B1	B
2757	B1	B	2258	C2	B	2752	A1	B	3465	A3	B	6203	C2	B
2759	B1	B	2285	C3	B	2754	B1	B	3466	A3	B	6205	C1	B
5754	A1	B	2286	C3	B	2756	B1	B	3467	A3	B	6206	C1	B
5755	B1	B	2287	C2	B	2758	B1	B	3468	A2	B	6207	C1	B
5756	B1	B	2288	C2	B	2760	B1	B	3469	A2	B	6208	C1	B
7463	A2	B	2289	C2	B	2761	B2	B	3483	A3	B	6209	C1	B
			2290	C2	B	2762	B2	B	3484	A3	B	6210	C1	B
			2291	C2	B	2763	A1	B	3485	A3	B	6211	C2	B
			2292	C2	B	2764	A1	B	3486	A3	B	6212	C2	B
			2293	C2	B	2766	A1	B	3487	A3	B	6222	C1	B
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			2318	C1	B	3207	C1	B	3616	C3	B	6634	C3	B
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			2322	C2	B	3215	C2	B	3619	C2	B	6702	C1	B
			2323	C2	B	3246	C2	B	3631	C3	B	6703	C1	B
			2328	C2	B	3248	C3	B	3632	C3	B	7201	C1	B
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			2342	A2	B	3255	C2	B	3634	C3	B	7205	C2	B
			2349	A1	B	3256	B3	B	3635	C3	B	7251	C3	B
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			2352	A1	B	3260	C2	B	3638	C3	B	7301	C1	B
			2353	A1	B	3261	C2	B	3639	C3	B	7302	C1	B
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			2435	A2	B	3268	C2	B	3646	B3	B	7401	B2	B
			2440	B1	B	3269	C2	B	3647	C3	B	7461	A2	B
			2462	A3	B	3270	C2	B	3648	C3	B	7470	A3	B
			2463	A3	B	3271	B2	B	3649	B3	B	7471	A3	B
			2464	A2	B	3272	B2	B	3651	C3	B	7601	C3	B
			2468	A2	B	3273	B2	B	3652	C3	B	7602	C2	B
			2470	A3	B	3274	B2	B	3702	B3	B	7604	C3	B
			2471	A3	B	3275	B2	B	3703	B3	B	7605	C3	B
			2472	A3	B	3276	B2	B	3704	B3	B	7631	C3	B
			2601	C3	B	3277	B2	B	3705	B3	B	7632	B3	B
			2602	C3	B	3278	B2	B	3707	B3	B	7633	C3	B
			2608	C3	B	3279	B3	B	3708	B3	B	7634	C3	B
			2609	C3	B	3280	B3	B	3709	B1	B	7701	B3	B
			2610	C3	B	3301	C2	B	3710	A3	B	7702	B3	B
			2611	C3	B	3310	C2	B	3711	A3	B	7703	A3	B
			2614	C3	B	3311	C2	B	3712	A3	B	7704	A3	B
			2615	C3	B	3312	B2	B	3713	A3	B	7705	A3	B
			2631	B3	B	3313	B2	B	3714	A3	B	7706	B1	B
			2632	B3	B	3314	C2	B	3715	A3	B	7707	B1	B
			2634	C3	B	3315	C1	B	3716	B1	B	7708	B1	B
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			2660	C3	B	3317	B1	B	3718	B1	B	7753	A1	B
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			2662	C3	B	3319	C1	B	3720	C1	B	7757	B1	B
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			2668	C3	B	3325	C2	B	3756	B1	B	7761	B3	B
			2669	C3	B	3327	C1	B	3757	B1	B	7762	B3	B
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			2671	C3	B	3342	A2	B	3759	B1	B	7764	B3	B
			2672	C3	B	3343	A2	B	3760	B2	B			
			2673	C3	B	3344	A2	B	3761	B1	B			
			2674	C3	B	3345	A2	B	3762	B3	B			
			2705	B3	B	3352	B2	B	3763	B3	B			
			2706	B3	B	3401	A3	B	3764	B3	B			
			2707	B3	B	3402	A3	B	3765	B3	B			
			2708	B3	B	3403	A2	B	5201	C2	B			
			2709	B3	B	3404	A2	B	5202	C2	B			
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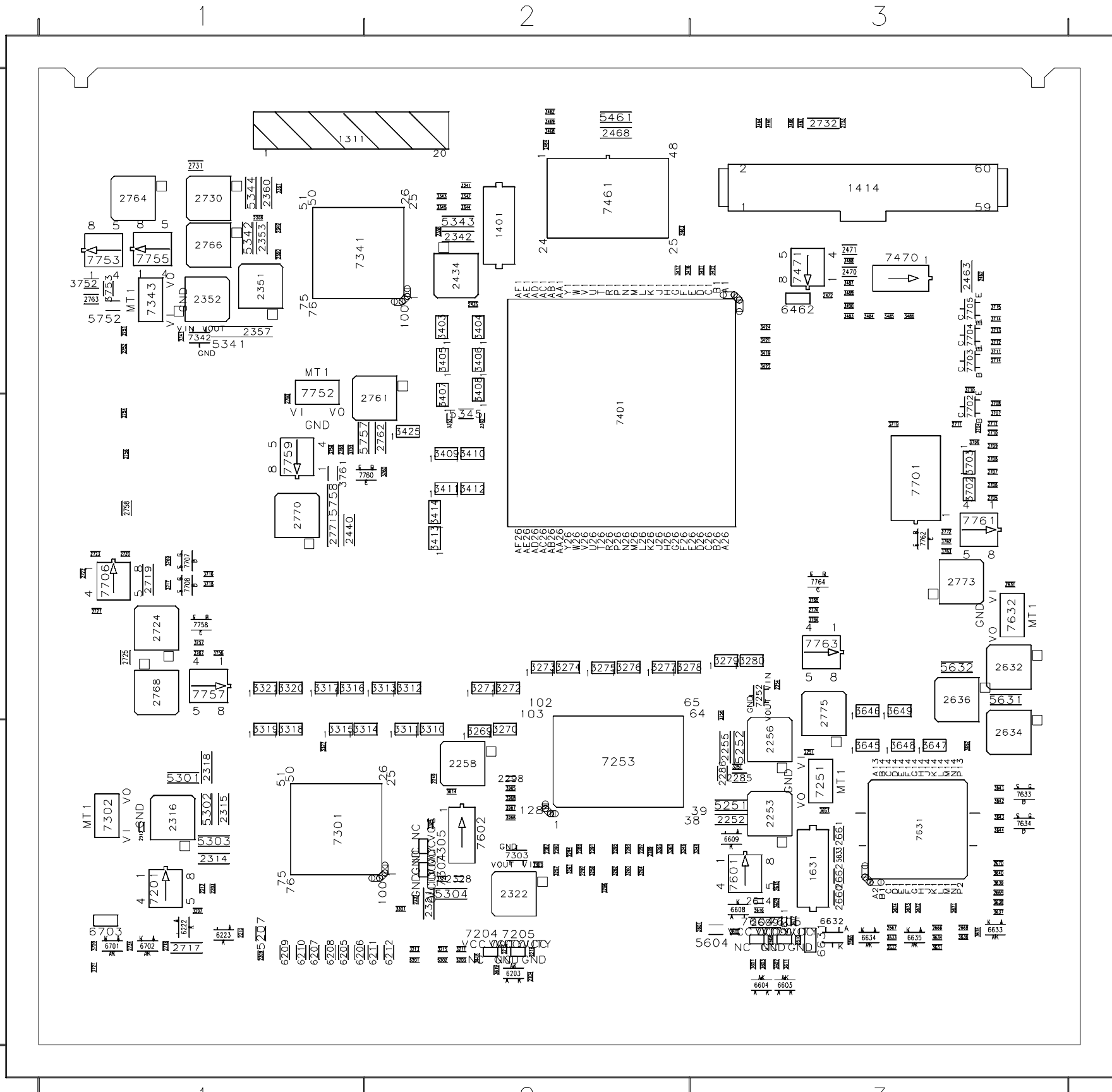
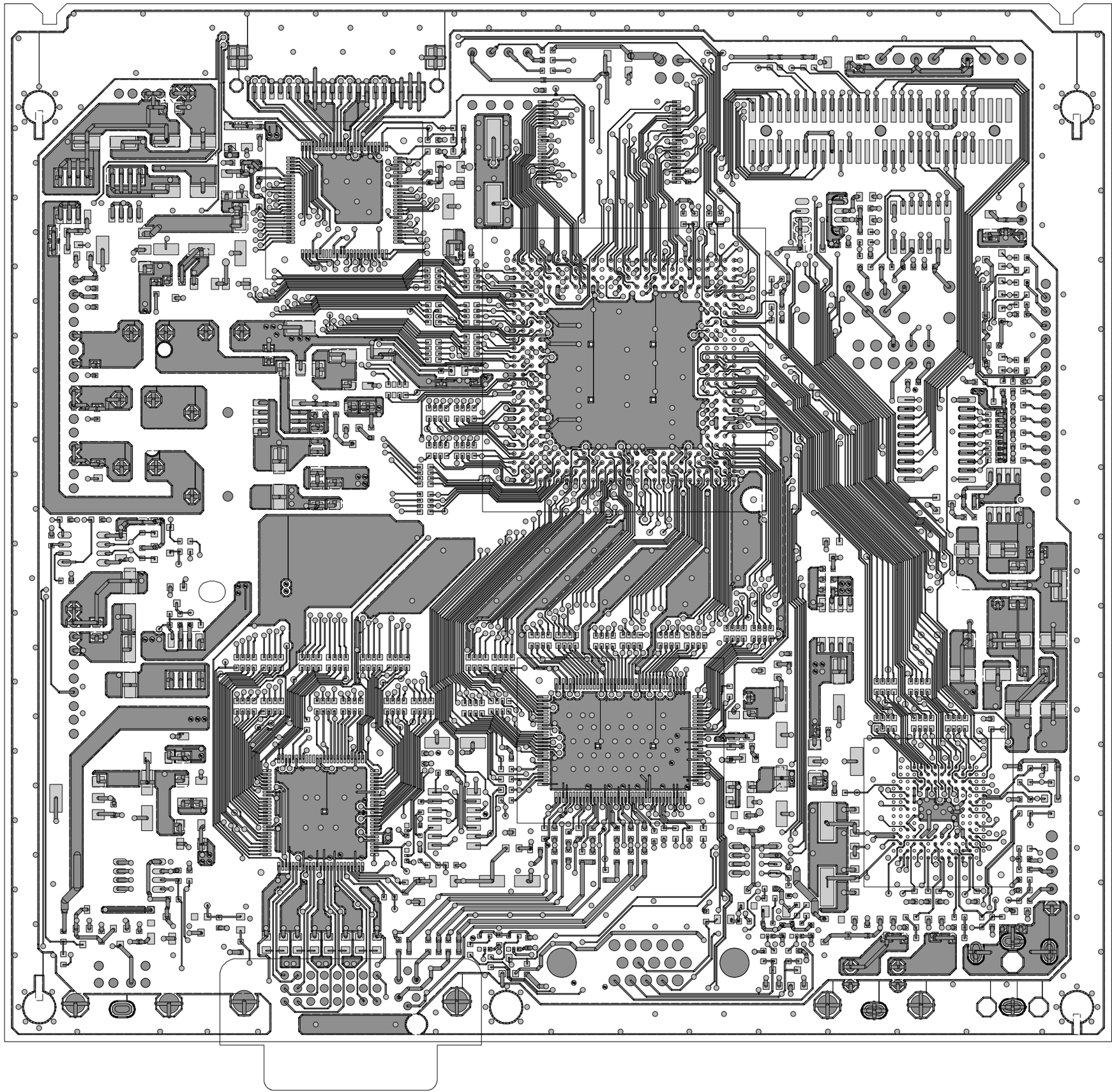
Schematic PWB(Components side view)

Go to cover page



Schematic PWB(Compohnents side view)



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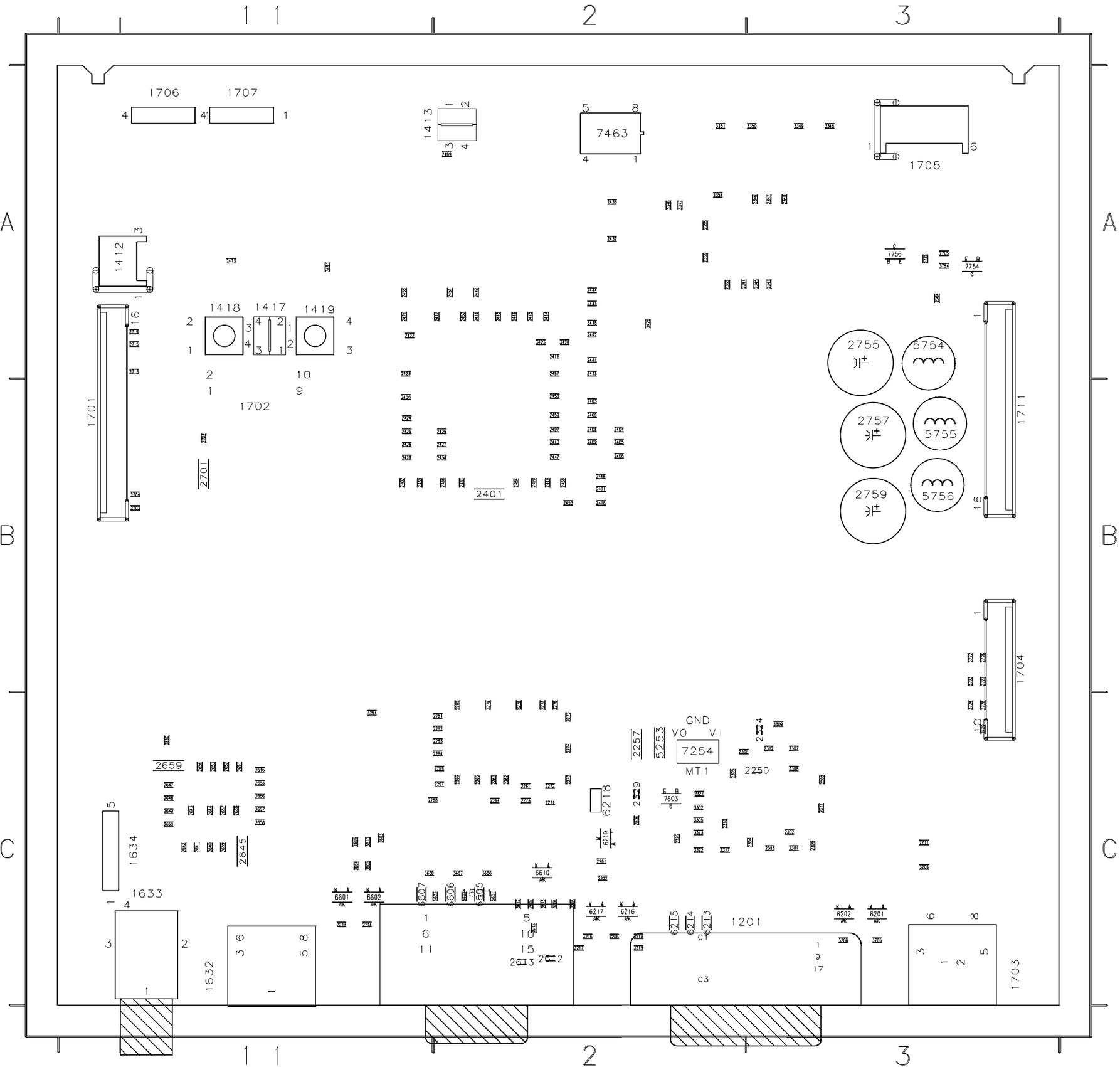
Schematic PWB(Copper track side view)



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# REF	LABEL	SIDE									
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1413	A1	B	2205	C2	A	2443	A2	A	3650	C1	A
1417	A1	B	2206	C2	A	2444	A2	A	3722	B3	A
1418	A1	B	2211	C3	A	2445	A2	A	3723	B3	A
1419	A1	B	2213	C1	A	2446	B2	A	3724	C3	A
1601	C2	B	2214	C1	A	2447	B2	A	3754	A3	A
1632	C1	B	2250	C3	A	2448	A2	A	3755	A3	A
1633	C1	B	2257	C2	A	2449	A2	A	5253	C2	A
1634	C1	B	2261	C2	A	2450	B2	A	5601	C2	A
1701	B1	B	2262	C2	A	2451	A2	A	5602	C2	A
1702	B1	B	2263	C2	A	2452	A2	A	5603	C2	A
1703	C3	B	2264	C2	A	2453	B2	A	6201	C3	A
1704	B3	B	2265	C2	A	2454	B2	A	6202	C3	A
1705	A3	B	2266	C2	A	2455	A1	A	6213	C2	A
1706	A1	B	2267	C2	A	2456	B1	A	6214	C2	A
1707	A1	B	2268	C1	A	2457	A2	A	6215	C2	A
1711	B3	B	2269	C2	A	2458	B2	A	6216	C2	A
2755	A3	B	2270	C2	A	2459	B2	A	6217	C2	A
2757	B3	B	2271	C2	A	2460	B2	A	6218	C2	A
2759	B3	B	2272	C2	A	2469	A2	A	6219	C2	A
5754	A3	B	2273	C2	A	2473	A1	A	6601	C1	A
5755	B3	B	2274	C2	A	2603	C1	A	6602	C1	A
5756	B3	B	2275	C2	A	2605	C1	A	6605	C2	A
7463	A2	B	2276	C2	A	2606	C2	A	6606	C2	A
			2277	C2	A	2607	C2	A	6607	C1	A
			2278	C2	A	2612	C2	A	6610	C2	A
			2279	C2	A	2613	C2	A	7254	C2	A
			2280	C2	A	2637	C1	A	7603	C2	A
			2281	C2	A	2638	C1	A	7754	A3	A
			2282	C2	A	2639	C1	A	7756	A3	A
			2283	C2	A	2640	C1	A			
			2284	C2	A	2641	C1	A			
			2301	C3	A	2642	C1	A			
			2302	C3	A	2643	C1	A			
			2303	C3	A	2644	C1	A			
			2304	C3	A	2645	C1	A			
			2305	C2	A	2646	C1	A			
			2306	C2	A	2647	C1	A			
			2307	C3	A	2648	C1	A			
			2308	C3	A	2649	C1	A			
			2309	C3	A	2650	C1	A			
			2310	C2	A	2651	C1	A			
			2311	C3	A	2652	C1	A			
			2312	C3	A	2653	C1	A			
			2317	C2	A	2654	C1	A			
			2324	C3	A	2655	C1	A			
			2326	C2	A	2656	C1	A			
			2327	C2	A	2657	C1	A			
			2329	C2	A	2658	C1	A			
			2343	A3	A	2659	C1	A			
			2344	A2	A	2701	B1	A			
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			2346	A3	A	2703	B1	A			
			2347	A3	A	2704	B1	A			
			2348	A3	A	2713	A1	A			
			2354	A2	A	2715	A1	A			
			2355	A2	A	2716	A1	A			
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			2401	B2	A	2729	C3	A			
			2402	B1	A	2765	A3	A			
			2403	B2	A	3204	C2	A			
			2404	B2	A	3205	C3	A			
			2405	B2	A	3206	C3	A			
			2406	B2	A	3208	C3	A			
			2407	B2	A	3216	C2	A			
			2408	B2	A	3217	C2	A			
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			2410	B2	A	3219	C2	A			
			2411	B2	A	3254	C1	A			
			2412	A2	A	3302	C2	A			
			2413	A2	A	3305	C2	A			
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			2416	A2	A	3322	C2	A			
			2417	A2	A	3323	C2	A			
			2418	B2	A	3346	A2	A			
			2419	B2	A	3347	A2	A			
			2420	B2	A	3348	A3	A			
			2421	A1	A	3349	A3	A			
			2422	A1	A	3350	A3	A			
			2423	A1	A	3351	A2	A			
			2424	B1	A	3418	A2	A			
			2425	B1	A	3420	A2	A			
			2426	B2	A	3423	A2	A			
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			2433	A2	A	3608	C1	A			
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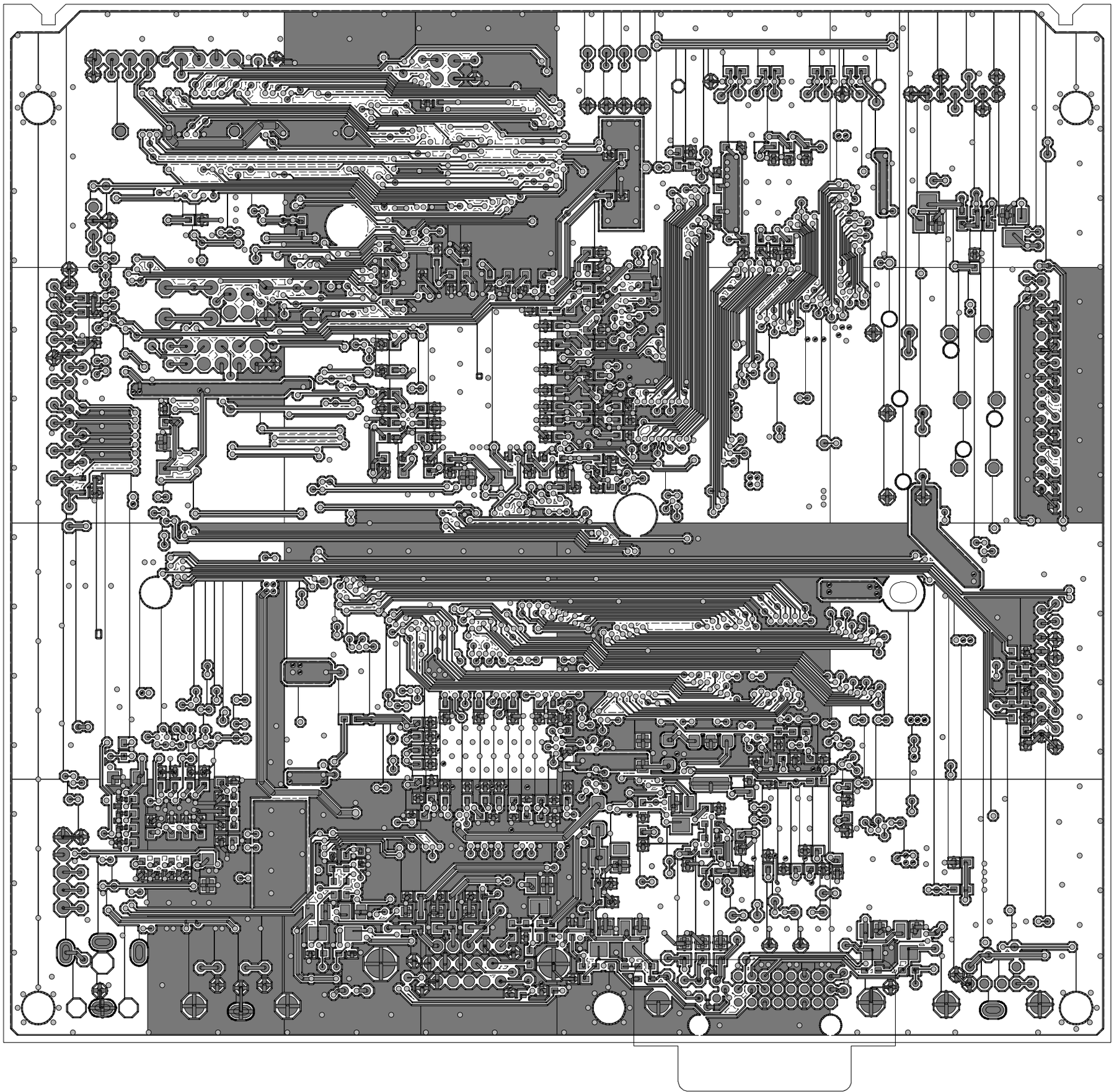
Schematic PWB(Copper track side view)



Schematic diagram(DVI/DSUB)

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PHILIPS

SCALER BOARD
SB: 56131 x2
SB: 56151

(DVI-I)

(D-SUB)

(Digital DDC IC)

(Analog DDC IC)

Ref Des	NI
2611	2238867753393 3p
2612	2238867753393 3p
2613	2238867753393 3p
2614	2238867753393 3p
3612	2322702960010R
6205	dio-esd0805a ESD0805A
6206	dio-esd0805a
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6208	dio-esd0805a
6209	dio-esd0805a ESD0805A
6210	dio-esd0805a
6211	dio-esd0805a
6212	dio-esd0805a
6213	dio-esd0805a ESD0805A
6214	dio-esd0805a ESD0805A
6215	dio-esd0805a ESD0805A
6605	dio-esd0805a ESD0805A
6606	dio-esd0805a ESD0805A
6607	dio-esd0805a ESD0805A

EXCEPT 1201,1601 WERE CHIP COMPONENTS.

CHN TYT12-	SETNAME LCD_200P					
CLASS_NO	DVI / DSUB	3138 158 54121				--------
02-05-20 3	200P3G/00C					
NAME Sophia	SUPERS.	9	10	130- 1	***	A3
MGr	CHECK*******	DATE 2002-05-16				

KONINKLIJKE PHILIPS ELECTRONICS N.V. 2000

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2201 E3
2202 A4
2203 D7
2204 C2
2205 C5
2206 C5
2209 B8
2210 B8
2211 C8
2212 D7
2213 H3
2214 H3
2215 E10
2216 E12
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2602 E4
2603 E5
2604 E6
2605 F5
2606 F9
2607 G4
2608 E7
2609 E8
2610 E9
2611 F5
2611 E9
2612 E11
2613 E12
2614 E8
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3205 C6
3206 D6
3207 C7
3208 C7
3211 C4
3213 C4
3215 C4
3216 C4
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3218 C5
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3603 H2
3604 F3
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3606 G5
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3609 E5
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6609 E6
6610 F4
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7601 F6

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7602-C F11
7602-D G11
7603 F7
7604 E7
7605 E8
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F012 B3
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F015 C3
F016 C3
F017 C3
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F020 B3
F021 B2
F022 G3
F023 G3
F024 F2
F025 F2
F026 G2
F027 G2
F028 G3
F029 G3
F030 G3
F031 G2

1 1601-3
1 V/div AC
2 mS/div

1 1601-2
1 V/div AC
2 mS/div

1 1601-1
1 V/div AC
2 mS/div

2 7602-6
0.5 V/div AC
5 mS/div

3 7602-9
0.5 V/div AC
5 uS/div

4 7602-12
0.5 V/div AC
5 mS/div

Schematic diagram(ADC)

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SCALER BOARD

SB: 56131 x2

PB: 56151

AVDD DVDD PVDD

2261 100n 2262 100n 2263 100n 2264 100n 2265 100n 2266 100n 2267 100n 2268 100n 2269 100n 2270 100n 2271 100n 2272 100n 2273 100n

2274 100n 2275 100n 2276 100n 2277 100n 2278 100n 2279 100n 2280 100n 2281 100n

2282 100n 2283 100n 2284 100n

PVDD 2285 39n 3251 3K3 22863n9 50 FILT

2287 100n 2288 100n 2289 100n I032 2 9 24 REF_BYPASS RMIDSCV BMIDSCV

SDA 3246 100R I035 31 SDA
SCL 3248 100R I036 32 SCL
33 A0
DVDD 3254 10K

3255 10K 32630R05 GHSFOUT GBLKSPL GCOAST I039 29 I040 30 I041 55 I042 54 CKINV CLAMP COAST CKEXT
3256 10K

DVI_A_HS 45 HSYNC0
DVI_A_VS 44 VSYNC0

DVI_A_R 3257 0R05 I047 2290 47n 5 RAIN0
DVI_A_G 3258 0R05 I048 2291 47n 13 GAIN0
2292 1n I045 12 SOGIN0
DVI_A_B 3260 0R05 I049 2293 47n 20 BAIN0

DSUB_HS 3.7V 16 43 HSYNC1
DSUB_VS 4.2V 15 42 VSYNC1

DSUB_R 3261 0R05 2294 47n 8 RAIN1
DSUB_G 3262 0R05 I055 2295 47n 17 GAIN1
2296 1n I053 16 SOGIN1
DSUB_B 3264 0R05 I056 2297 47n 23 BAIN1

7253
AD9888KS-205

A/D Convertor (Analog)

AVDD1 1 6 7 10 14 18 21 25 26 34 37 38 39
AVDD2 43
AVDD3 52
DVDD1 56 59 89 98 102 112 122
DVDD2 127
PVDD1 47
PVDD2 48
PVDD3 52

ROUTA0 120 AGRE0
ROUTA1 119 AGRE1
ROUTA2 118 AGRE2
ROUTA3 117 AGRE3
ROUTA4 116 AGRE4
ROUTA5 115 AGRE5
ROUTA6 114 AGRE6
ROUTA7 113 AGRE7

ROUTB0 110 AGRO0
ROUTB1 109 AGRO1
ROUTB2 108 AGRO2
ROUTB3 107 AGRO3
ROUTB4 106 AGRO4
ROUTB5 105 AGRO5
ROUTB6 104 AGRO6
ROUTB7 103 AGRO7

GOUTA0 97 AGGE0
GOUTA1 96 AGGE1
GOUTA2 95 AGGE2
GOUTA3 94 AGGE3
GOUTA4 93 AGGE4
GOUTA5 92 AGGE5
GOUTA6 91 AGGE6
GOUTA7 90 AGGE7

GOUTB0 87 AGGO0
GOUTB1 86 AGGO1
GOUTB2 85 AGGO2
GOUTB3 84 AGGO3
GOUTB4 83 AGGO4
GOUTB5 82 AGGO5
GOUTB6 81 AGGO6
GOUTB7 80 AGGO7

BOUTA0 77 AGBE0
BOUTA1 76 AGBE1
BOUTA2 75 AGBE2
BOUTA3 74 AGBE3
BOUTA4 73 AGBE4
BOUTA5 72 AGBE5
BOUTA6 71 AGBE6
BOUTA7 70 AGBE7

BOUTB0 64 AGBO0
BOUTB1 63 AGBO1
BOUTB2 62 AGBO2
BOUTB3 61 AGBO3
BOUTB4 60 AGBO4
BOUTB5 59 AGBO5
BOUTB6 58 AGBO6
BOUTB7 57 AGBO7

DATACK 123 I060 3265 47R I064 1.6V GCLK 18
DATACKB 124

VSOUT 127 I057 3266 47R 20 AVSOUT
HSOUT 26 I058 3267 47R 2.9V AHSOUT 19
COGOUT 25 I059 3268 47R I063 GFBK 17

GND1 3 GND2 4 GND3 11 GND4 15 GND5 19 GND6 22 GND7 24 GND8 28 GND9 35 GND10 36 GND11 40 GND12 46 GND13 49 GND14 50 GND15 54 GND16 55 GND17 66 GND18 69 GND19 78 GND20 79 GND21 88 GND22 99 GND23 100 GND24 101 GND25 111 GND26 117 GND27 125 GND28 126

NI 2298 2p2 2250 33p NI

AGRE0 I065 1.6V 1 8 I113 GRE0
AGRE1 I066 1.8V 2 7 I114 GRE1
AGRE2 I067 2V 6 3269 47R 3 6 5206 GRE2
AGRE3 I068 2.1V 7 4 5 I116 GRE3

AGRO0 I073 2.1V 8 1 8 I121 GRO0
AGRO1 I074 2.1V 2 7 I122 GRO1
AGRO2 9 3 3271 47R 6 I123 GRO2
AGRO3 1.6V 10 4 5 I124 GRO3
1.7V 12 11

AGGE0 I081 0.7V 1 8 I129 GGE0
AGGE1 I082 0.6V 2 7 I529 GGE1
AGGE2 13 3 3273 47R 6 I530 GGE2
AGGE3 0.8V 14 4 5 I531 GGE3
1.4V

AGGO0 I089 1.7V 1 8 I517 GGO0
AGGO1 I090 1.2V 2 7 I518 GGO1
AGGO2 2207 3 3275 47R 6 I519 GGO2
AGGO3 I092 1.4V 4 5 I520 GGO3
1.3V

AGBE0 I097 1.2V 1 8 I521 GBE0
AGBE1 1.3V 2 7 I522 GBE1
AGBE2 I099 1.3V 3 3277 47R 6 I523 GBE2
AGBE3 1.8V 4 5 I524 GBE3

AGBO0 I105 1.8V 1 8 I525 GBO0
AGBO1 I106 1.4V 2 7 I526 GBO1
AGBO2 1.4V 3 3279 47R 6 I527 GBO2
AGBO3 I108 1.3V 4 5 I528 GBO3

AGRE4 I069 1 8 I117 GRE4
AGRE5 I070 2 7 I118 GRE5
AGRE6 I071 3 3270 47R 6 I119 GRE6
AGRE7 I072 4 5 I120 GRE7

AGRO4 I077 1 8 I125 GRO4
AGRO5 2 7 I126 GRO5
AGRO6 I079 3 3272 47R 6 I127 GRO6
AGRO7 I080 4 5 I128 GRO7

AGGE4 1 8 I532 GGE4
AGGE5 2 7 I533 GGE5
AGGE6 3 3274 47R 6 I534 GGE6
AGGE7 I088 4 5 I535 GGE7

AGGO4 I093 1 8 I536 GGO4
AGGO5 I094 2 7 I537 GGO5
AGGO6 I095 3 3276 47R 6 I538 GGO6
AGGO7 I096 4 5 I539 GGO7

AGBE4 1 8 I542 GBE4
AGBE5 I102 2 7 I543 GBE5
AGBE6 I103 3 3278 47R 6 I544 GBE6
AGBE7 4 5 I545 GBE7

AGBO4 I109 1 8 I546 GBO4
AGBO5 I110 2 7 I547 GBO5
AGBO6 I111 3 3280 47R 6 I548 GBO6
AGBO7 I112 4 5 I549 GBO7

Ref Des	NI
2250	223886775339
2298	330 223886775228

7251
LM2937IMP-3.3
ADC5V 1 Vi 4 Vo 3 GND 2
I026 5251 50R I027 3.2V AVDD
2251 100n 2253 47u 2252 10u

7252
LM3480IM3-3.3
ADC5V 2 Vin 1 Vout 3 GND
I028 5252 50R I029 3.3V PVDD
2254 100n 2256 47u 2255 10u

7254
LM2937IMP-3.3
ADC5V 1 Vi 4 Vo 3 GND 2
5253 50R I030 DVDD
2249 100n 2258 47u 2257 10u

CHN TYT12-			SETNAME LCD_200P				
CLASS_NO			ADC		3138 158 54121		--------
02-05-20	3		200P3G/00C				
NAME Sophia			SUPERS.	9	10	130- 2	*** A3
		MGr	CHECK*******	DATE 2002-05-16	KONINKLIJKE PHILIPS ELECTRONICS N.V. 2000		

2249 H5
2250 G8
2251 G2
2252 G3
2253 G3
2254 H2
2255 H3
2256 H3
2257 H6
2258 H6
2261 A2
2262 A2
2263 A2
2264 A2
2265 A3
2266 A3
2267 A3
2268 A3
2269 A4
2270 A4
2271 A4
2272 A4
2273 A4
2274 A7
2275 A7
2276 A8
2277 A8
2278 A8
2279 A8
2280 A8
2281 A9
2282 A9
2283 A9
2284 A10
2285 B3
2286 C4
2287 C3
2288 C3
2289 C3
2290 E4
2291 E4
2292 E4
2293 E4
2294 E4
2295 E4
2296 F4
2297 F4
2298 G8
3246 C3
3248 C3
3251 B4
3254 D3
3255 D3
3256 D3
3257 E3
3258 E3
3260 E3
3261 E3
3262 E3
3263 D3
3264 F3
3265 F7
3266 F7
3267 F7
3268 F7
3269 B9
3270 B10
3271 C9
3272 C10
3273 C9
3274 C10
3275 D9
3276 D10
3277 E9
3278 E10
3279 E9
3280 E10
5251 F3
5252 H3
5253 H6
7251 F2
7252 G3
7253 D6
7254 G5

Schematic diagram(TMSD RX)

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SCALER BOARD

SB: 56131 x2

PB: 56151

Ref Des	NI
2324	2222 202
2328	2222 202
2329	2222 202
3305	2222 202
3322	2222 202

2301 B2
2302 B2
2303 B2
2304 B3
2305 B3
2306 B3
2307 B3
2308 B4
2309 B4
2310 B4
2311 B5
2312 B5
2313 F2
2314 F4
2315 F4
2316 F3
2317 E4
2318 E4
2320 G2
2321 G4
2322 G3
2323 B7
2324 C8
2326 A10
2327 A11
2328 B10
2329 B12
3301 B5
3302 E5
3305 E5
3308 B7
3309 B7
3310 C9
3311 C11
3312 D9
3313 D11
3314 D9
3315 D11
3316 E9
3317 E11
3318 F9
3319 F11
3320 F9
3321 F11
3322 D5
3323 D5
3324 B10
3325 B11
3327 B7
5301 E3
5302 E5
5303 F3
5304 G3
7301 D6
7302 F2
7303 G2
7304 A9
7305 A11

AVCC 2301 470p 2302 470p 2303 470p 2304 470p

OVCC 2305 470p 2306 470p 2307 470p 2308 470p 2309 470p

CVCC 2310 470p 2311 470p 2312 470p

AVCC OVCC CVCC PVCC 2323 100n

AVCC 3301 390R SCDT I051

EXT_RES

PDO

RX2- 81 RX2+ 80 RX2-/RX2+

RX1- 86 RX1+ 85 RX1-/RX1+

RX0- 91 RX0+ 90 RX0-/RX0+

RXC+ 93 RXC- 94 RXC+/RXC-

OVCC 3322 10K NI

_TMDSRXPD 3323 0R05 I062 I061 PD

OVCC 2317 100n 3302 10K I075 3305 0R NI

OCK_INV PIXS STAG_OUT RSVD DFO ST

7301

THC63DV161

TMDS Transmitter

SCDT ODCK DE VSYNC HSYNC PVCC

3308 47R GFBK I078 SCDT

3309 47R GCLK

3327 47R I083 GPEN

2324 2p2 NI

B10 B11 B12 B13 B14 B15 B16 B17 PGBE0 PGBE1 PGBE2 PGBE3 PGBE4 PGBE5 PGBE6 PGBE7

G10 G11 G12 G13 G14 G15 G16 G17 PGGE0 PGGE1 PGGE2 PGGE3 PGGE4 PGGE5 PGGE6 PGGE7

R10 R11 R12 R13 R14 R15 R16 R17 PGRE0 PGRE1 PGRE2 PGRE3 PGRE4 PGRE5 PGRE6 PGRE7

B20 B21 B22 B23 B24 B25 B26 B27 PGBO0 PGBO1 PGBO2 PGBO3 PGBO4 PGBO5 PGBO6 PGBO7

G20 G21 G22 G23 G24 G25 G26 G27 PGGO0 PGGO1 PGGO2 PGGO3 PGGO4 PGGO5 PGGO6 PGGO7

R20 R21 R22 R23 R24 R25 R26 R27 PGRO0 PGRO1 PGRO2 PGRO3 PGRO4 PGRO5 PGRO6 PGRO7

AGND1 AGND2 AGND3 AGND4 AGND5 DGND1 DGND2 DGND3 DGND4 DGND5 DGND6 DGND7 GND1 TEST GND3 PGND

TMDSRX5V

7304 74HCT1G14GW NC VCC INA OUTY GND 2326 100n 3324 0R05 TMDS_VS NI 2328 33p

7305 74HCT1G14GW NC VCC INA OUTY GND 2327 100n 3325 0R05 TMDS_HS NI 2329 33p

PGBE0 PGBE1 PGBE2 PGBE3 3310 47R GBE0 GBE1 GBE2 GBE3

PGBE4 PGBE5 PGBE6 PGBE7 3311 47R GBE4 GBE5 GBE6 GBE7

PGGE0 PGGE1 PGGE2 PGGE3 3312 47R GGE0 GGE1 GGE2 GGE3

PGGE4 PGGE5 PGGE6 PGGE7 3313 47R GGE4 GGE5 GGE6 GGE7

PGRE0 PGRE1 PGRE2 PGRE3 3314 47R GRE0 GRE1 GRE2 GRE3

PGRE4 PGRE5 PGRE6 PGRE7 3315 47R GRE4 GRE5 GRE6 GRE7

PGBO0 PGBO1 PGBO2 PGBO3 3316 47R GBO0 GBO1 GBO2 GBO3

PGBO4 PGBO5 PGBO6 PGBO7 3317 47R GBO4 GBO5 GBO6 GBO7

PGGO0 PGGO1 PGGO2 PGGO3 3318 47R GGO0 GGO1 GGO2 GGO3

PGGO4 PGGO5 PGGO6 PGGO7 3319 47R GGO4 GGO5 GGO6 GGO7

PGRO0 PGRO1 PGRO2 PGRO3 3320 47R GRO0 GRO1 GRO2 GRO3

PGRO4 PGRO5 PGRO6 PGRO7 3321 47R GRO4 GRO5 GRO6 GRO7

7302 LM2937IMP-3.3 Vi GND Vo

TMDSRX5V 2313 100n 2316 47u I076 5302 50R I415 CVCC 2315 10u

5301 50R I429 OVCC 2318 10u

5303 50R I416 AVCC 2314 10u

7303 LM3480IM3-3.3 Vin GND Vout I430

TMDSRX5V 2320 100n 2322 47u 5304 50R I431 PVCC 2321 10u

CHN TYT12-		SETNAME LCD_200P				
CLASS_NO	TMDS RX				3138 158 54121	--------
02-05-20 3	200P3G/00C					
NAME Sophia		SUPERS.	9	10	130- 3	*** A3
MGr	CHECK*******	DATE 2002-05-16				

KONINKLIJKE PHILIPS ELECTRONICS N.V. 2000

Schematic diagram(VIDEO)

SCALER BOARD

SB: 56131 x2

PB: 56151

Ref Des	NI
1634	header-v5x1p 63135
3637	232270260189 18R
3638	232270260569 56R
3639	232270260189 18R
3640	232270260569 56R

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7631

SAA7118E/V1

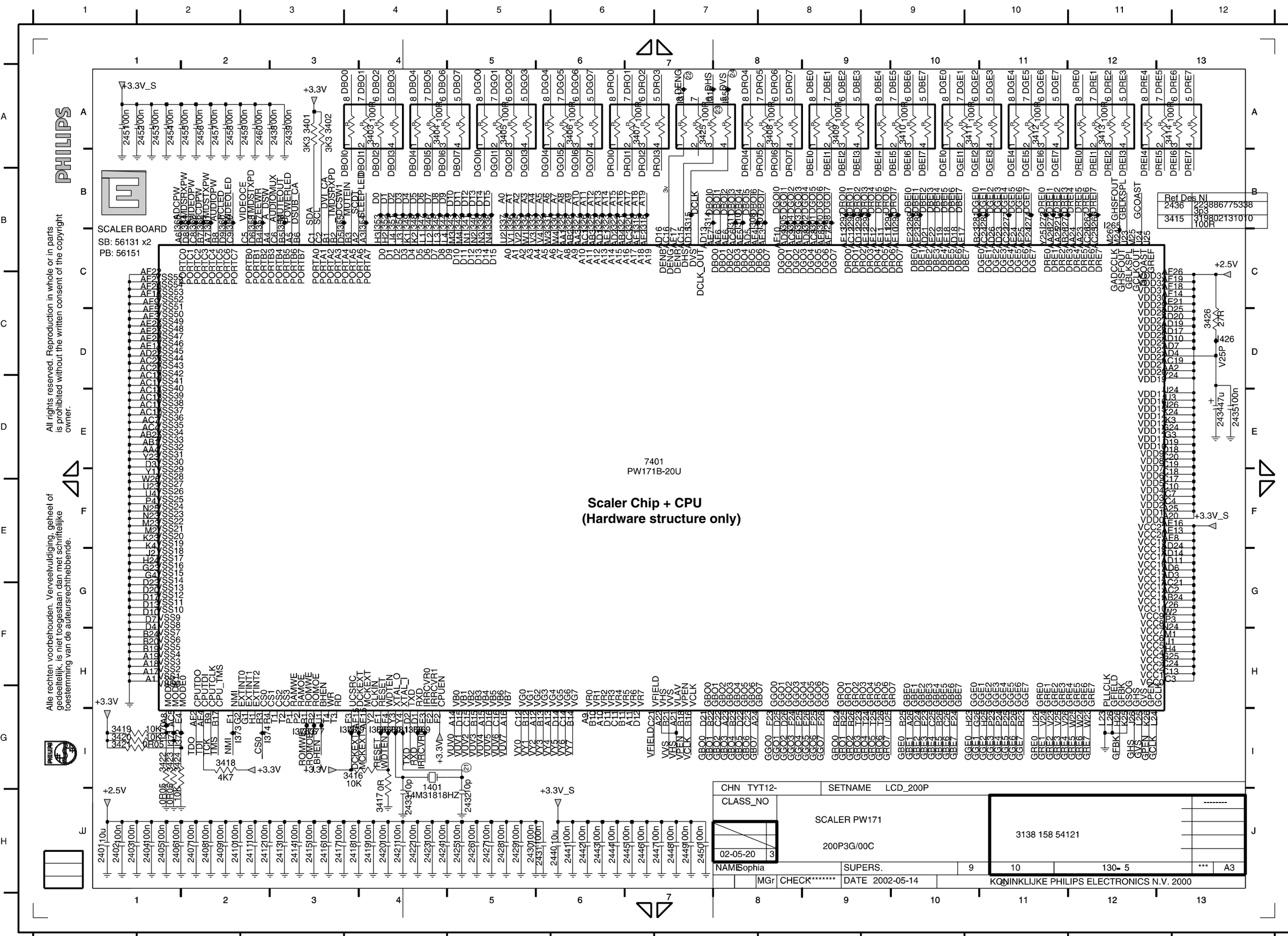
Video Decoder

EXCEPT 1632,1633,1634 WERE CHIP COMPONENTS.

CHN TYT12-	SETNAME LCD_200P		
CLASS_NO	VIDEO DECODER	3138 158 54121	
02-05-20 3	200P3G/00C		
NAME Sophia	SUPERS. 9	10	130- 4 *** A3
MGr CHECK*******	DATE 2002-05-14	KONINKLIJKE PHILIPS ELECTRONICS N.V. 2000	

1631 F9
1632 C2
1633 D2
1634 D2
2631 F2
2632 F3
2634 E4
2636 F4
2637 H2
2638 H2
2639 H2
2640 H2
2641 H3
2642 H3
2643 H3
2644 H3
2645 H3
2646 H4
2647 H4
2648 H4
2649 H4
2650 H5
2651 H5
2652 H5
2653 H5
2654 H6
2655 H6
2656 H6
2657 H6
2658 H6
2659 H7
2660 F9
2661 F9
2662 F10
2665 B3
2666 C5
2667 C5
2668 D5
2669 D5
2670 D5
2671 C6
2672 D6
2673 D6
2674 D6
3631 C4
3632 C4
3633 C4
3634 C5
3635 D4
3636 D5
3637 D4
3638 D4
3639 D4
3640 D4
3641 B9
3642 B10
3643 B10
3644 B11
3645 C11
3646 D11
3647 E11
3648 E11
3649 F11
3650 D10
3651 C10
3652 D10
5631 E4
5632 F4
5633 F9
6631 B2
6632 B2
6633 B3
6634 B4
6635 B4
7631 D8
7632 F3
7633 B9
7634 B10
F035 C3
F036 C3
F037 C2
F038 D3
F039 D3
F040 D3
F041 D3
F042 D2
F043 D2

Schematic diagram(SCALER)



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Schematic diagram(TMDS TX)

SCALER BOARD

SB: 56131 X2

PB: 56151

PHILIPS

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Ref Des	NI
2362	223886715338
3344	3p3 319802131030 10K

TMDS Receiver (DVI-I, Digital)

7341 SiI160CT100

7342 LM3480IM3-3.3

7343 LM2937IMP-3.3

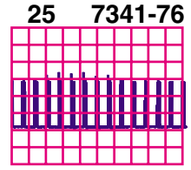
1253-SMT-20

TO PANEL

CHN	TYT12-
SETNAME	LCD_200P
CLASS_NO	
	TMDS TX
	200P3G/00C
02-05-20	3
NAME	Sophia
SUPERS.	9
MGr	CHECK*******
DATE	2002-05-21
3138 158 54121	
10	130 - 6
***	A3

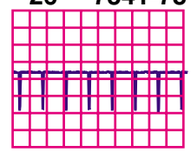
KONINKLIJKE PHILIPS ELECTRONICS N.V. 2000

25 7341-76



0.5 V/div AC
10 uS/div

26 7341-78



0.5 V/div AC
10 uS/div

1311 B11
2208 G4
2341 E2
2342 E4
2343 E6
2344 E7
2345 F6
2346 B5
2347 B5
2348 B5
2349 C4
2350 D4
2351 G3
2352 E3
2353 G4
2354 B7
2355 D9
2356 D9
2357 F4
2358 D9
2360 H4
2361 H4
2362 C2
2363 E8
2364 G2
3341 B7
3342 B8
3343 B8
3344 B8
3345 B8
3346 B8
3347 B8
3348 B11
3349 C11
3350 D11
3351 D11
3352 C3
5341 F4
5342 G4
5343 E4
5344 G4
5345 B3
7341 D7
7342 E3
7343 F2
F044 C10
F045 C10
F046 C10
F047 C10
F048 D10
F049 D10
F050 E10
F051 E10
F052 D11
F053 D11

Schematic diagram(MEMORY/CLKGEN)

Go to cover page

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SCALER BOARD

SB: 56131 x2

PB: 56151

7461 M29W800DT-90N1 — Flash ROM (Save CPU code, Firmware for CPU)

7463 M24C32-WBN6 — EEPROM (OSD data, Factory data)

Ref Des	NI
1412	823827707581 S03B-PHKS
1413	823827708961 641261
1414	823827707601 104549-8
1417	823827708961 641261
1418	243812800197
1419	243812800197
2462	223878615649 100n
2463	222224119876 10u
2473	223878615649 100n
3464	319802133320 3K3
3465	319802133320 3K3
3466	319802133320 3K3
3467	319802133320 3K3
3483	319802134790 47R
3484	319802134790 47R
3485	319802134720 4K7
3486	319802134720 4K7
3487	319802134710 470R
3488	319802131020 1K
3489	319802134710 470R
3490	319802131020 1K
7470-A	933719470653 74HCT32D
7470-B	933719470653 74HCT32D
7470-C	933719470653 74HCT32D
7470-D	933719470653 74HCT32D

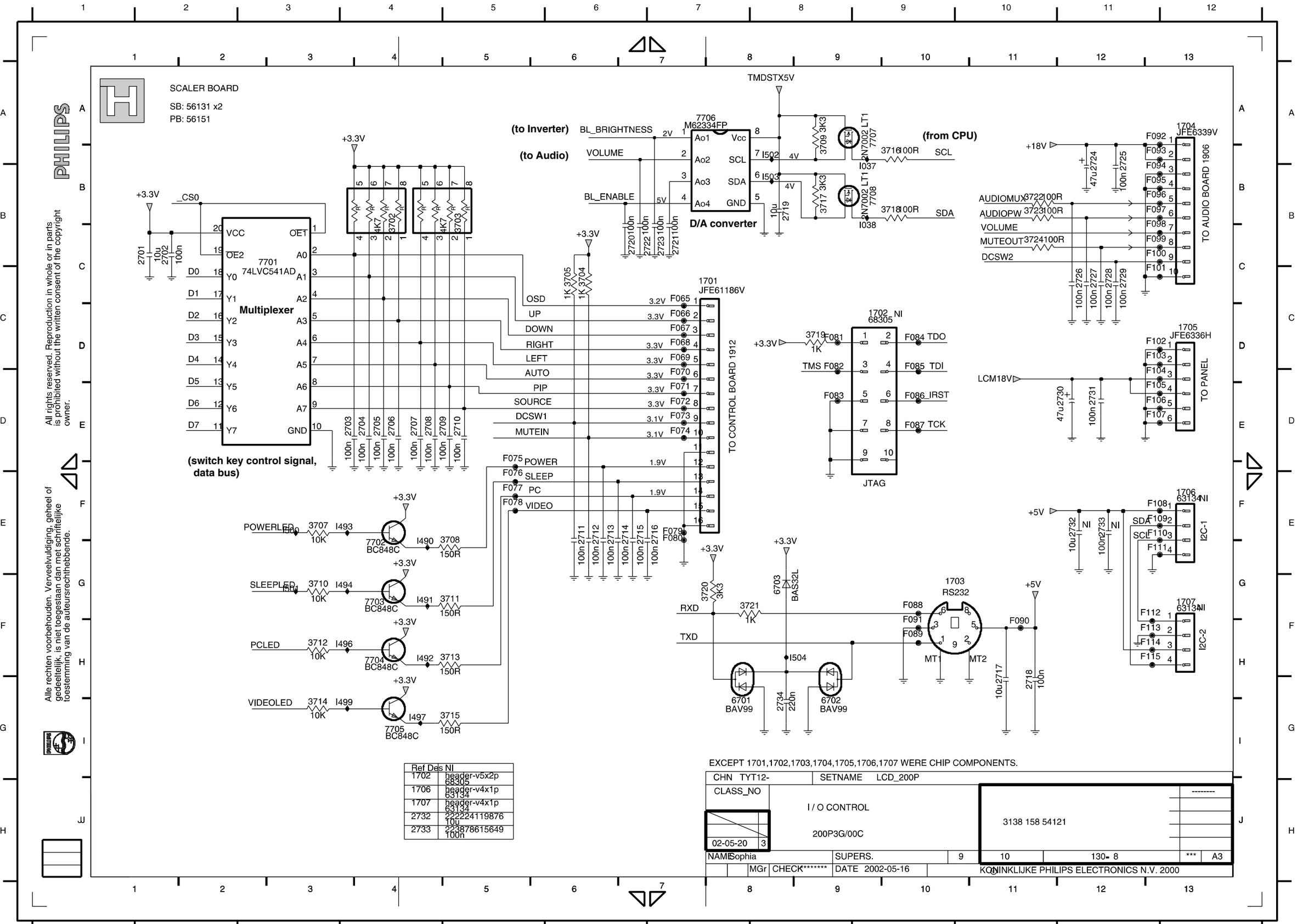
NON INSERTION

EXCEPT 1412,1413,1417,1418,1419 WERE CHIP COMPONENTS.

CHN TYT12-	SETNAME LCD_200P		
CLASS_NO	MEMORY / CLKGEN	3138 158 54121	
02-05-20 3	200P3G/00C		
NAME Sophia	SUPERS. 9	10	130- 7 *** A3
MGr	CHECK*******	DATE 2002-05-14	KONINKLIJKE PHILIPS ELECTRONICS N.V. 2000

1412 B10
1413 C3
1414 D2
1417 E6
1418 F7
1419 F7
2462 B9
2463 B9
2464 A5
2468 A5
2469 A4
2470 E10
2471 E10
2472 E12
2473 E6
3462 B4
3463 C2
3464 E3
3465 E3
3466 E3
3467 F3
3468 C4
3469 C4
3483 E6
3484 F6
3485 E8
3486 F8
3487 E9
3488 E9
3489 F9
3490 F9
3491 E10
5461 A5
6462 E10
7461 A2
7463 B5
7470-A E6
7470-B F6
7470-C E8
7470-D F8
7471 E11
F054 C3
F055 C4
F056 D3
F057 D4
F058 F6
F059 F6
F060 E7
F061 F7
F062 B10
F063 B10
F064 B10

Schematic diagram(I / O CONTROL)



Ref Des	NI
1702	header-v5x2p 68305
1706	header-v4x1p 63134
1707	header-v4x1p 63134
2732	2222241198 76 10u
2733	2238786156 49 100n

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1701 C7 F095 B11
1702 C9 F096 B11
1703 F10 F097 B11
1704 A12 F098 B11
1705 C12 F099 B11
1706 E12 F100 B11
1707 F12 F101 C11
2701 B2 F102 C11
2702 B2 F103 C11
2703 D4 F104 D11
2704 D4 F105 D11
2705 D4 F106 D11
2706 D4 F107 D11
2707 D4 F108 E11
2708 D4 F109 E11
2709 D5 F110 E11
2710 D5 F111 E11
2711 E6 F112 F11
2712 E6 F113 F11
2713 E6 F114 F11
2714 E6 F115 F11
2715 E6
2716 E7
2717 F10
2718 G10
2719 B8
2720 B6
2721 B7
2722 B6
2723 B7
2724 A11
2725 A11
2726 C11
2727 C11
2728 C11
2729 C11
2730 D11
2731 D11
2732 E11
2733 E11
2734 G8
3702 B4
3703 B5
3704 C6
3705 C6
3707 E3
3708 E5
3709 A8
3710 F3
3711 F5
3712 F3
3713 F5
3714 G3
3715 G5
3716 A9
3717 B8
3718 B9
3719 C8
3720 F7
3721 F8
3722 B10
3723 B10
3724 B10
6701 G8
6702 G8
6703 F8
7701 B3
7702 E4
7703 F4
7704 F4
7705 G4
7706 A7
7707 A9
7708 B9
F065 C7
F066 C7
F067 C7
F068 C7
F069 C7
F070 D7
F071 D7
F072 D7
F073 D7
F074 D7
F075 D5
F076 E5
F077 E5
F078 E5
F079 E7
F080 E7
F081 C8
F082 D8
F083 D8
F084 C9
F085 D9
F086 D9
F087 D9
F088 F9
F089 F9
F090 F10
F091 F9
F092 A11
F093 A11
F094 B11

Schematic diagram(POWER SUPPLY)

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SCALER BOARD

SB: 56131 x2

PB: 56151

Ref Des	NI
3761	2322730910020R05

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FROM POWER BOARD

1711 JFE61186V

F116 2751 100n 5752 I505 BL_BRIGHTNESS

F117 2752 100n

F118 BL_ENABLE

F119

F120 F135 5754 10u 2754 100n 2755 470u +3.3V

F121

F122

F123

F124 F136 5755 10u 2756 100n 2757 470u +5V

F125

F126

F127 F137 5756 10u 2758 100n 2759 470u +18V

F128

F129

7752 IRU1206-25CY

+3.3V 1 Vi 4 Vo 3 F138 5757 50R (TO PW171B) +2.5V

GND/ADJ 2

2760 100n 2761 47u 2762 10u

+18V 3752 47K 2763 100n 3753 100K U1 I507

LCDPW 7754 MUN2211J

7753 SI4835DY S1 S2 S3 G D1 D2 D3 D4 1 2 3 4 8 7 6 5

F130 (TO PANEL) LCM18V 2764 47u

+3.3V 3761 0R05 NI

3758 100K 2769 100n 3759 10K I514

+2.5V 3760 0R05

7760 MUN2211J

7759 SI4835DY I513

F133 5758 50R (TO PW171B) +3.3V_S 2770 47u 2771 10u

+5V 3754 100K 2765 100n 3755 10K I510

TMDSTXPW 7756 MUN2211J

7755 SI4835DY I509

F131 (TO SiI161) TMDSTX5V 2766 47u

+5V 3762 100K 2772 100n 3763 10K U8

VIDEOPW 7762 MUN2211J

7761 SI4835DY U7

U13 (TO SAA7118) VIDEO5V 2773 47u

+5V 3756 100K 2767 100n 3757 10K I512

TMDSRXPW 7758 MUN2211J

7757 SI4835DY I511

F132 (TO THC63DV161) TMDSRX5V 2768 47u

+5V 3764 100K 2774 100n 3765 10K I516

ADCPW 7764 MUN2211J

7763 SI4835DY I515

F134 (TO AD9888) ADC5V 2775 47u

EXCEPT 2755,2757,2759 WERE CHIP COMPONENTS.

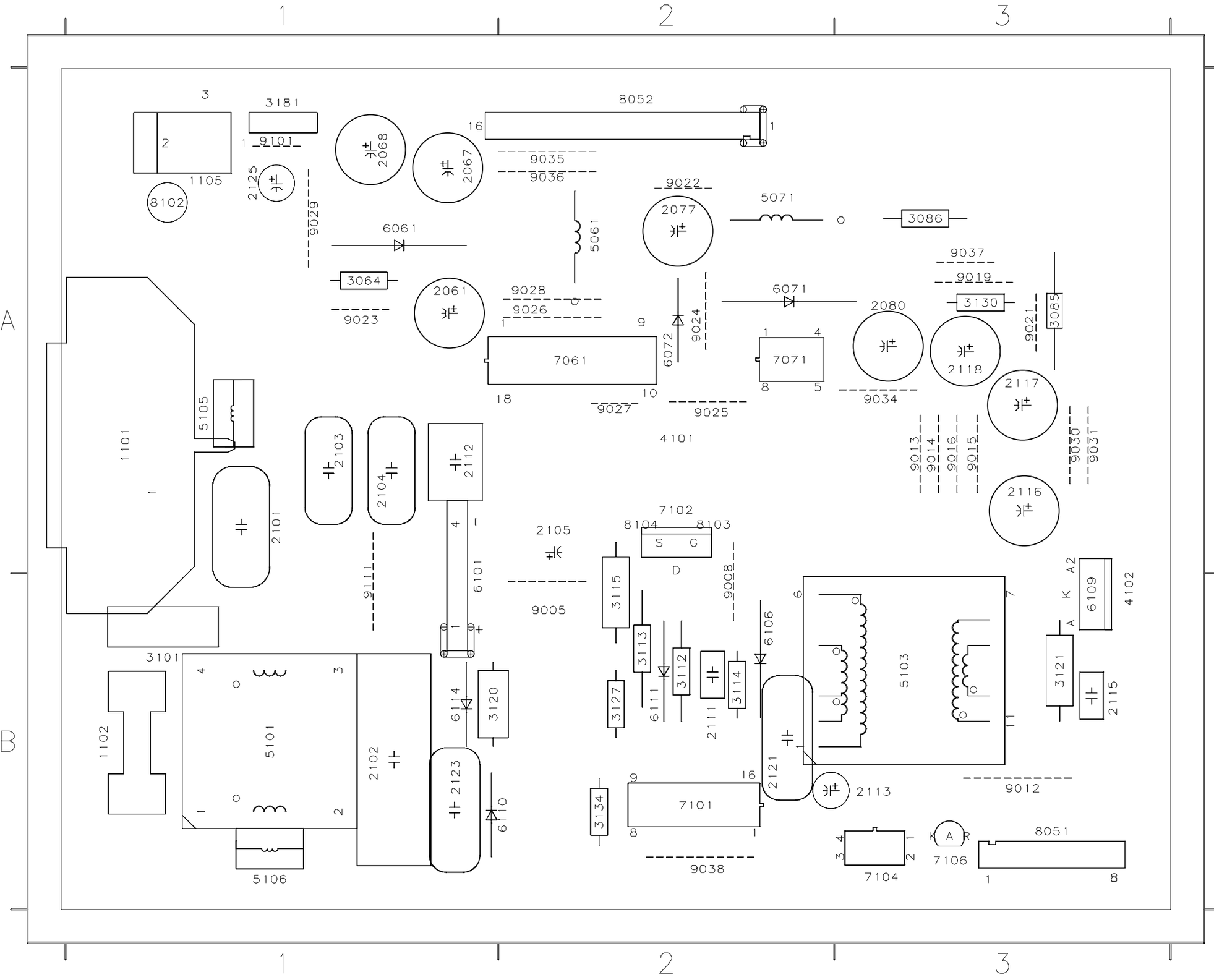
CHN TYT12-	SETNAME LCD_200P		
CLASS_NO	POWER SUPPLY 200P3G/00C	3138 158 54121	--------
02-05-20 3			
NAME Sophia	SUPERS.	9 10 130- 9	*** A3
MGr	CHECK*******	DATE 2002-05-14	

KONINKLIJKE PHILIPS ELECTRONICS N.V. 2000

U13 D11
1711 C2
2751 C3
2752 C3
2754 D3
2755 D3
2756 E3
2757 E3
2758 E3
2759 E3
2760 G2
2761 G3
2762 G4
2763 B6
2764 B8
2765 D6
2766 D8
2767 F6
2768 F8
2769 B9
2770 B11
2771 B12
2772 D9
2773 D11
2774 F9
2775 F11
3752 B6
3753 B6
3754 D6
3755 D6
3756 F6
3757 F6
3758 B9
3759 B9
3760 B9
3761 A10
3762 D9
3763 D9
3764 F9
3765 F9
5752 C3
5754 D3
5755 D3
5756 E3
5757 F4
5758 B11
7752 F3
7753 A7
7754 C6
7755 C7
7756 E6
7757 E7
7758 G6
7759 A10
7760 C9
7761 C10
7762 E9
7763 E10
7764 G9
F116 C2
F117 C2
F118 C2
F119 D2
F120 D2
F121 D2
F122 D2
F123 D2
F124 D2
F125 E2
F126 E2
F127 E2
F128 E2
F129 E2
F130 B8
F131 D8
F132 F8
F133 B11
F134 F11
F135 D4
F136 D4
F137 E4
F138 G3

Go to cover page

Power Board C.B.A.(copper track & smc side view)



# REF	GRID	BOARD SIDE
1101	A1	B
1102	B1	B
1105	A1	B
2061	A1	B
2067	A1	B
2068	A1	B
2077	A2	B
2080	A3	B
2101	A1	B
2102	B1	B
2103	A1	B
2104	A1	B
2105	A2	B
2111	B2	B
2112	A1	B
2113	B3	B
2115	B3	B
2116	A3	B
2117	A3	B
2118	A3	B
2121	B2	B
2123	B1	B
2125	A1	B
3064	A1	B
3085	A3	B
3086	A3	B
3101	B1	B
3112	B2	B
3113	B2	B
3114	B2	B
3115	B2	B
3120	B1	B
3121	B3	B
3127	B2	B
3130	A3	B
3134	B2	B
3181	A1	B
4101	A2	B
4102	B3	B
5061	A2	B
5071	A2	B
5101	B1	B
5103	B3	B
5105	A1	B
5106	B1	B
6061	A1	B
6071	A2	B
6072	A2	B
6101	B1	B
6106	B2	B
6109	B3	B
6110	B2	B
6111	B2	B
6114	B1	B
7061	A2	B
7071	A2	B
7101	B2	B
7102	A2	B
7104	B3	B
7106	B3	B
8051	B3	B
8052	A2	B
8102	A1	B
8103	A2	B
8104	A2	B
9005	B2	B
9008	B2	B
9012	B3	B
9013	A3	B
9014	A3	B
9015	A3	B
9016	A3	B
9019	A3	B
9021	A3	B
9022	A2	B
9023	A1	B
9024	A2	B
9025	A2	B
9026	A2	B
9027	A2	B
9028	A2	B
9029	A1	B
9030	A3	B
9031	A3	B
9034	A3	B
9035	A2	B
9036	A2	B
9037	A3	B
9038	B2	B
9101	A1	B
9111	B1	B

# REF	GRID	BOARD SIDE
2051	B3	A
2055	B3	A
2056	B3	A
2062	A2	A
2063	A1	A
2064	A2	A
2065	A2	A
2066	A2	A
2069	A1	A
2070	A2	A
2072	A2	A
2073	A2	A
2074	A2	A
2075	A2	A
2076	A2	A
2078	A2	A
2079	A2	A
2083	A3	A
2084	A3	A
2085	A2	A
2106	B2	A
2107	B2	A
2108	B2	A
2109	B2	A
2110	B2	A
2114	B2	A
2119	B3	A
2120	B3	A
2122	B2	A
2126	B2	A
3052	A2	A
3056	A2	A
3061	A1	A
3062	A2	A
3071	A2	A
3072	A2	A
3073	A2	A
3074	A2	A
3080	A2	A
3084	A3	A
3089	B3	A
3091	B3	A
3102	B1	A
3103	B1	A
3104	B1	A
3105	B1	A
3106	B2	A
3107	B2	A
3108	B2	A
3109	B2	A
3110	B1	A
3111	B2	A
3116	B2	A
3117	B3	A
3118	B2	A
3119	B2	A
3122	B3	A
3123	B3	A
3124	B2	A
3125	B3	A
3126	B3	A
3128	B2	A
3129	B2	A
3131	B1	A
3132	B1	A
3133	B2	A
3135	B1	A
3136	B2	A
3137	B2	A
3140	B2	A
3142	B2	A
3191	B2	A
3192	B2	A
6105	B2	A
6107	B3	A
6108	B3	A
6112	B2	A
6113	B2	A
6115	B2	A
7082	A3	A
7083	A3	A
7103	B2	A
7105	B1	A
7107	B2	A

# REF	GRID	BOARD SIDE
1006	A3	B
1101	A1	B
1102	B1	B
1105	A1	B
2061	A1	B
2067	A1	B
2068	A1	B
2077	A2	B
2080	A3	B
2081	A3	B
2082	A3	B
2084	A3	B
2101	A1	B
2102	B1	B
2103	A1	B
2104	A1	B
2105	A2	B
2111	B2	B
2112	A1	B
2113	B3	B
2115	B3	B
2116	A3	B
2117	A3	B
2118	A3	B
2121	B2	B
2123	B1	B
2125	A1	B
3064	A1	B
3085	A3	B
3086	A3	B
3101	B1	B
3112	B2	B
3113	B2	B
3114	B2	B
3115	B2	B
3120	B1	B
3121	B3	B
3127	B2	B
3130	A3	B
3134	B2	B
3181	A1	B
4101	A2	B
4102	B3	B
5061	A2	B
5071	A2	B
5101	B1	B
5103	B3	B
5105	A1	B
5106	B1	B
6061	A1	B
6071	A2	B
6072	A2	B
6101	B1	B
6106	B2	B
6109	B3	B
6110	B2	B
6111	B2	B
6114	B1	B
7061	A2	B
7071	A2	B
7101	B2	B
7102	A2	B
7104	B3	B
7106	B3	B
8051	B3	B
8052	A2	B
8102	A1	B
8103	A2	B
8104	A2	B
9005	B2	B
9008	B2	B
9012	B3	B
9013	A3	B
9014	A3	B
9015	A3	B
9016	A3	B
9019	A3	B
9021	A3	B
9022	A2	B
9023	A1	B
9024	A2	B
9025	A2	B
9026	A2	B
9027	A2	B
9028	A2	B
9029	A1	B
9030	A3	B
9031	A3	B
9034	A3	B
9035	A2	B
9036	A2	B
9037	A3	B
9038	B2	B
9101	A1	B
9111	B1	B

# REF	GRID	BOARD SIDE
7061	A2	B
7071	A2	B
7085	A3	B
7101	B2	B
7102	A2	B
7104	B3	B
7106	B3	B
8051	B3	B
8052	A2	B
8102	A1	B
9005	A1	B
9007	B2	B
9008	A2	B
9012	B3	B
9013	A3	B
9014	A3	B
9015	A3	B
9016	A3	B
9017	A3	B
9018	A3	B
9019	A3	B
9021	A1	B
9022	A2	B
9023	A1	B
9024	A2	B
9025	A2	B
9026	A1	B
9027	A2	B
9028	A1	B
9030	A3	B
9033	A3	B
9034	A3	B
9035	A1	B
9036	A1	B
9101	A1	B
9111	A1	B

# REF	GRID	BOARD SIDE
2051	B3	B
2055	B3	B
2056	B3	B
2062	A1	B
2063	A1	B
2064	A2	B
2065	A2	B
2066	A2	B
2069	A1	B
2070	A2	B
2072	A2	B
2073	A2	B
2074	A2	B
2075	A2	B
2076	A2	B
2078	A2	B
2079	A1	B
2083	A3	B
2084	A3	B
2085	A2	B
2106	B2	B
2107	B2	B
2108	B2	B
2109	B2	B
2110	B2	B
2114	B2	B
2119	B3	B
2120	B3	B
2122	B2	B
2126	B2	B
3052	A2	B
3053	A2	B
3054	A2	B
3056	A2	B
3057	A2	B
3059	A2	B
3061	A1	B
3062	A2	B
3071	A2	B
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3073	A2	B
3074	A2	B
3075	A3	B
3076	A3	B
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3088	A3	B
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3091	A3	B
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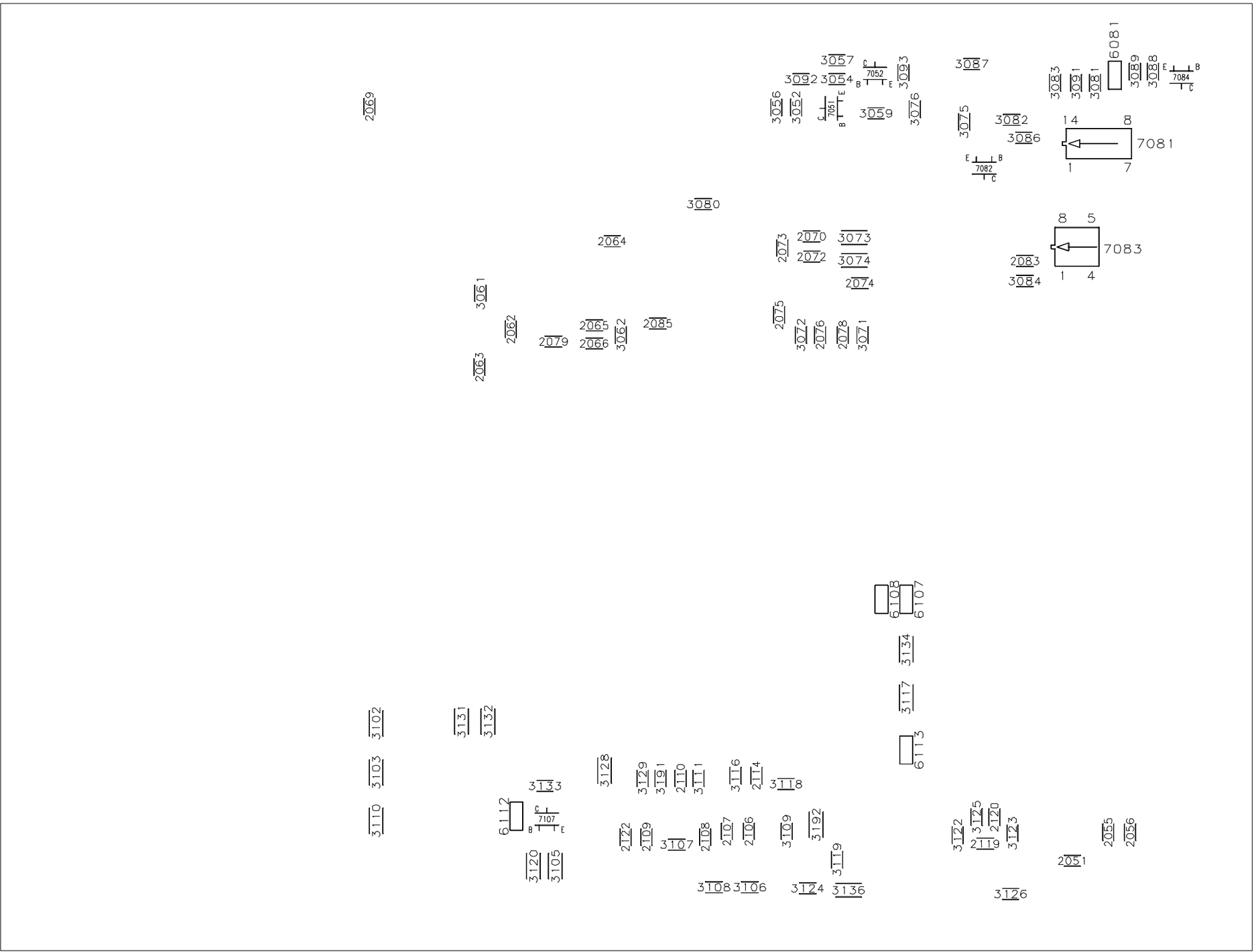
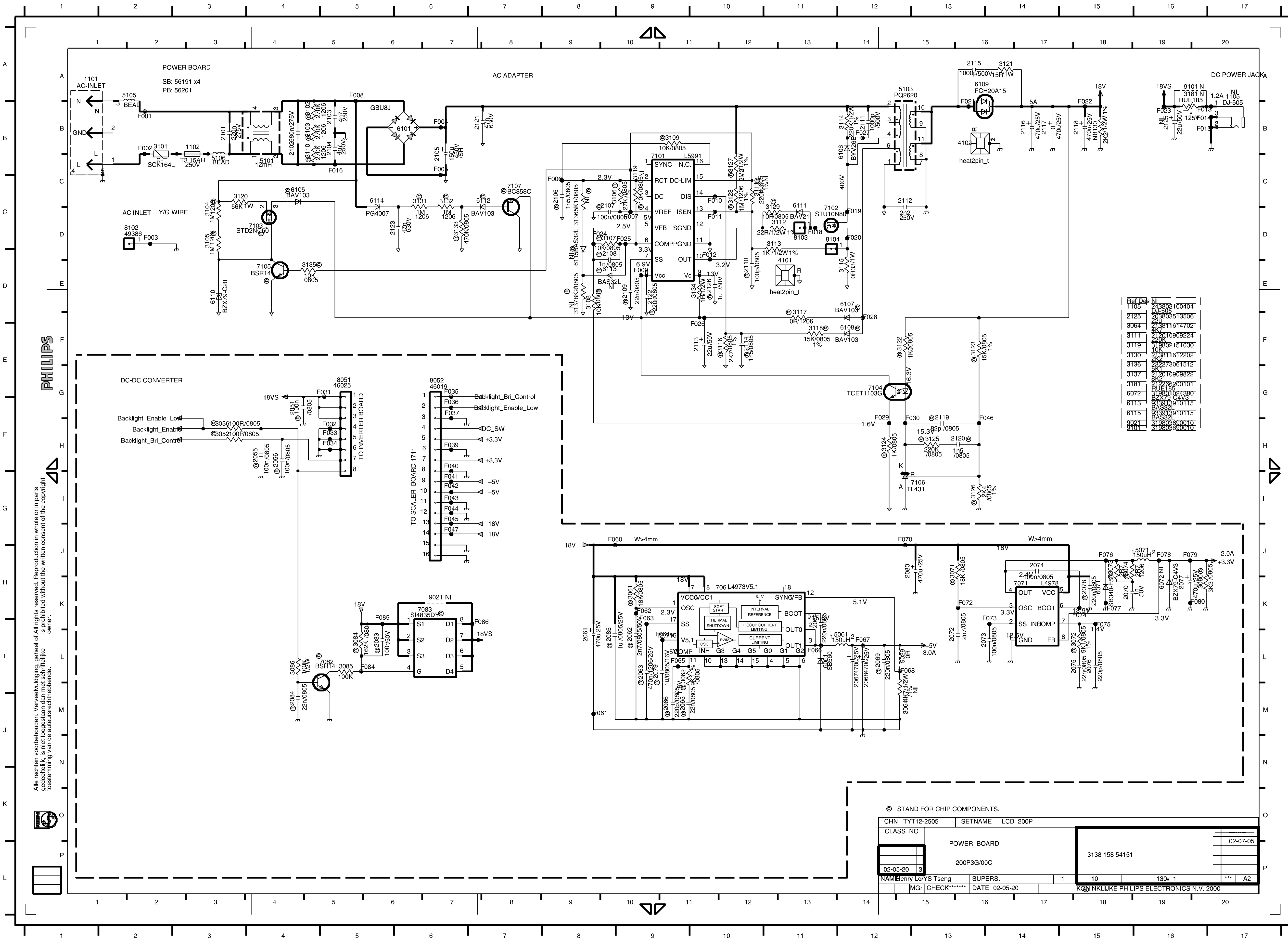
3093	A2	B
3102	B1	B
3103	B1	B
3105	B1	B
3106	B2	B
3107	B2	B
3108	B2	B
3109	B2	B
3110	B1	B
3111	B2	B
3116	B2	B
3117	B2	B
3118	B2	B
3119	B2	B
3122	B3	B
3123	B3	B
3124	B2	B
3125	B3	B
3126	B3	B
3128	B2	B
3129	B2	B
3131	B1	B
3132	B1	B
3133	B2	B
3135	B1	B
3136	B2	B
3137	B2	B
3140	B2	B
3142	B2	B
3191	B2	B
3192	B2	B
6105	B2	B
6107	B3	B
6108	B3	B
6112	B2	B
6113	B2	B
6115	B2	B
7082	A3	B
7083	A3	B
7103	B2	B
7105	B1	B
7107	B2	B

Power Board C.B.A.(copper track & smc side view)



Schematic diagram(Power)



1101 A1
1102 B3
1105 A17
2051 F4
2055 F4
2056 F4
2061 I8
2062 I9
2063 I9
2064 I11
2065 J9
2066 J9
2067 I12
2068 I12
2069 I12
2070 H15
2072 I13
2073 I14
2074 H14
2075 I15
2076 I15
2077 H16
2078 H15
2079 I9
2080 H12
2083 I5
2084 J4
2085 I8
2101 B3
2102 B4
2103 B5
2104 B5
2105 B6
2106 C8
2107 C8
2108 D8
2109 D9
2110 D10
2111 B12
2112 C12
2113 E10
2114 E10
2115 A13
2116 B14
2117 B14
2118 B15
2119 F13
2120 F13
2121 B7
2122 D9
2123 C6
2125 B16
2126 D10
3052 F3
3056 F3
3061 H9
3062 I9
3064 J12
3071 H13
3072 I15
3073 H15
3074 H15
3080 H16
3084 I5
3085 I5
3086 I4
3101 B2
3102 B4
3103 B4
3104 C3
3105 C3
3106 C9
3107 C8
3108 D8
3109 B9
3110 B4
3111 C10
3112 C11
3113 C11
3114 B12
3115 D12
3116 E10
3117 D11
3118 E11
3119 B9
3120 C3
3121 A14
3122 E12
3123 E13
3124 F12
3125 F13
3126 G13
3127 B10
3128 C10
3129 C11
3130 B15
3131 C6
3132 C6
3133 C6
3134 D10
3135 D4
3136 C8
3137 D8
3181 A16
4101 D11
4102 B13
5061 I12
5071 H16
5101 B4
5103 A12
5105 A2
5106 B3
6061 I11
6071 H15
6072 H16
6101 B6
6105 C4
6106 B12
6107 D12
6108 E12
6109 A13
6110 D3
6111 C11
6112 C7
6113 D8
6114 C5
6115 D8
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7071 H14
7082 I4
7083 H6
7101 B9
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7103 C4
7104 E12
7105 D4
7106 G13
7107 C7
8051 E5
8052 E6
8102 C2
8103 C11
8104 C11
9021 H6
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9101 A16
F001 B2
F002 B2
F003 C2
F004 B6
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F006 C8
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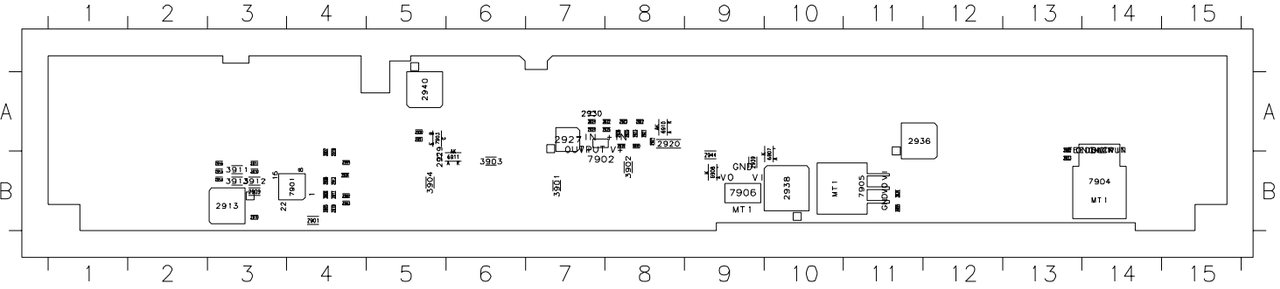
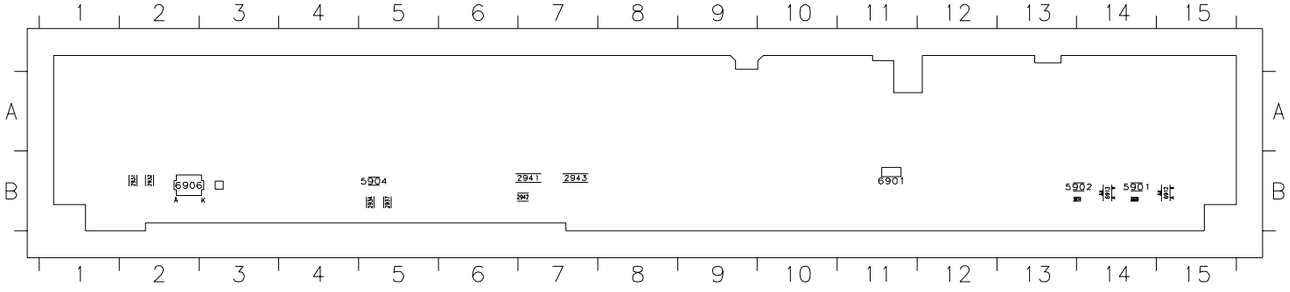
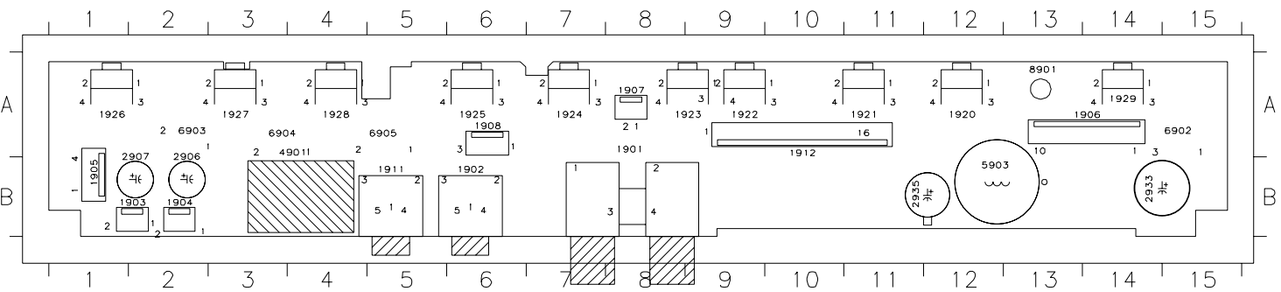
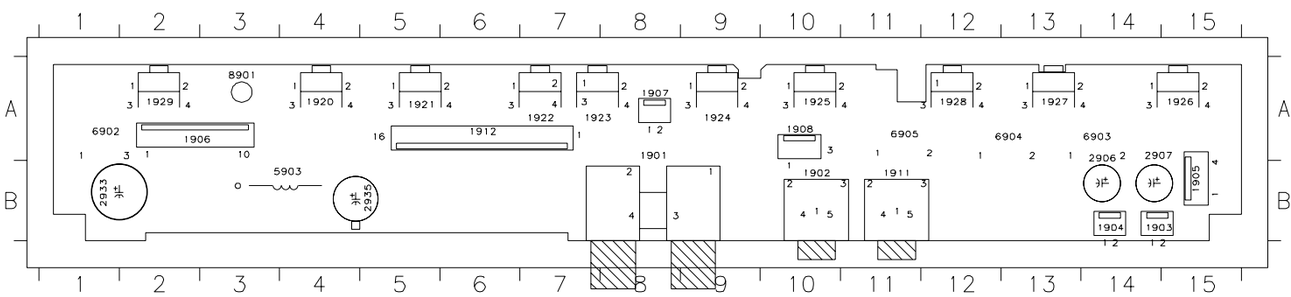
F014 B16
F015 B16
F016 B5
F018 C11
F019 C12
F020 C12
F021 B13
F022 B15
F023 B16
F024 C8
F025 C9
F026 E10
F027 B12
F028 D12
F029 F12
F030 F13
F031 E5
F032 F5
F033 F5
F034 F5
F035 E6
F036 F6
F037 F6
F039 F6
F040 F6
F041 G6
F042 G6
F043 G6
F044 G6
F045 G6
F046 F14
F047 G6
F060 G8
F061 J8
F062 H9
F063 I9
F064 I9
F065 I9
F066 I11
F067 I12
F068 I12
F070 G12
F072 H13
F073 I14
F074 H15
F075 I15
F076 H15
F077 H15
F078 H16
F079 H16
F080 H16
F084 I5
F085 I5
F086 I7

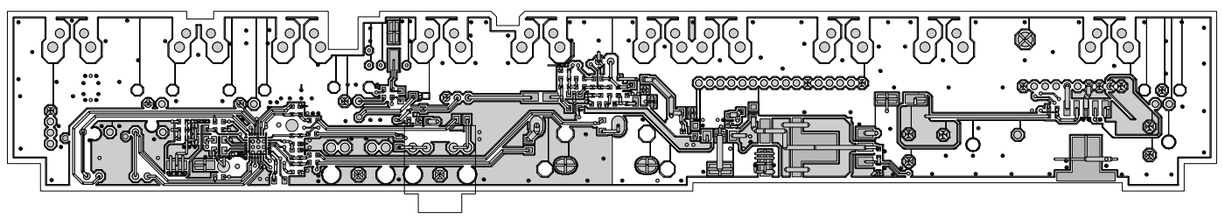
Schematic AUDIO & KEYPAD(Copper track side view)

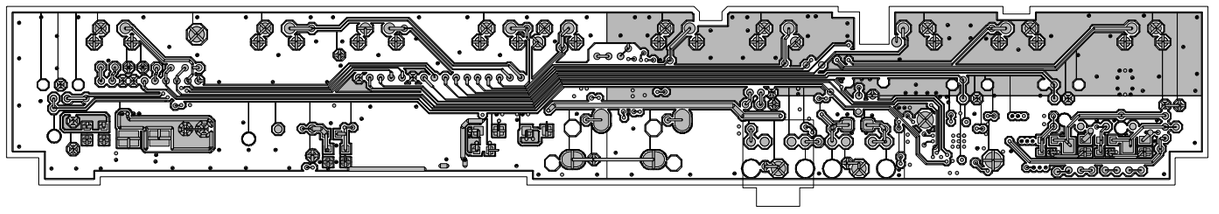












# REF	GRID	BOARD LABEL	SIDE
1901	A8		B
1902	B6		B
1903	B2		B
1904	B2		B
1905	B1		B
1906	A14		B
1907	A8		B
1908	A6		B
1911	B5		B
1912	A10		B
1920	A12		B
1921	A11		B
1922	A9		B
1923	A9		B
1924	A7		B
1925	A6		B
1926	A1		B
1927	A3		B
1928	A4		B
1929	A14		B
2906	A2		B
2907	A2		B
2933	B14		B
2935	B11		B
4901	A4		B
5903	B12		B
6902	A15		B
6903	A2		B
6904	A3		B
6905	A5		B
8901	A13		B

# REF	GRID	BOARD LABEL	SIDE
1901	A8		B
1902	B10		B
1903	B14		B
1904	B14		B
1905	B15		B
1906	A2		B
1907	A8		B
1908	A10		B
1911	B11		B
1912	A6		B
1920	A4		B
1921	A5		B
1922	A7		B
1923	A7		B
1924	A9		B
1925	A10		B
1926	A15		B
1927	A13		B
1928	A12		B
1929	A2		B
2906	A14		B
2907	A14		B
2933	B1		B
2935	B5		B
5903	B4		B
6902	A1		B
6903	A14		B
6904	A13		B
6905	A11		B
8901	A3		B

# REF	GRID	BOARD LABEL	SIDE
2901	B4		B
2902	B4		B
2903	B4		B
2904	B4		B
2905	B4		B
2909	B3		B
2910	B3		B
2911	B3		B
2912	B4		B
2913	B3		B
2914	B3		B
2915	B3		B
2916	B3		B
2917	B4		B
2918	B4		B
2919	B4		B
2920	A8		B
2921	A8		B
2922	A8		B
2923	A8		B
2924	A7		B
2925	A8		B
2926	A8		B
2927	A7		B
2928	A8		B
2929	B5		B
2930	A7		B
2936	A11		B
2938	B10		B
2939	B9		B
2940	A5		B
2944	B9		B
3901	B7		B
3902	B8		B
3903	B6		B
3904	B5		B
3905	B4		B
3906	B4		B
3907	B4		B
3908	B4		B
3910	B3		B
3911	B3		B
3912	B3		B
3913	B3		B
3920	A8		B
3921	A8		B
3922	A8		B
3923	A8		B
3924	A7		B
3925	A8		B
3930	A5		B
3931	A5		B
3932	A13		B
3933	B13		B
3934	B11		B
3935	B11		B
6907	B10		B
6908	B9		B
6910	A8		B
6911	B6		B

# REF	GRID	BOARD LABEL	SIDE
6911	B6		B
7901	B4		B
7902	B7		B
7903	A5		B
7904	B14		B
7905	B11		B
7906	B9		B

# REF	GRID	BOARD LABEL	SIDE
2931	B2		A
2932	B2		A
2934	B5		A
2937	B5		A
2941	B7		A
2942	B7		A
2943	B7		A
3909	B14		A
3914	B14		A
5901	B14		A
5902	B14		A
5904	B5		A
6901	B11		A
6906	B2		A
6912	B15		A
6913	B14		A

Go to cover page

Schematic diagram(AUDIO AMP/ MIC PREAMP)

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MIC PREAMP

From Ixternal Mic
1907 JFE6338V
F024
F025
ESD_3V
6910 BAV99
AUD_3V
3920 220R
I001
3921 1K
2920 10u
2921 100n
2923 100n
2922 10n
I002
3922 39K
I003
2924 150p
3924 100K
AUD_3V
100K 3923
I004
2925 15p
2930 1n
3925 100K
2926 1u
-IN
V-
+IN
OUTPUT
AUD_3V
V+
LMV821M5 7902
I005
2927 4u7
2928 100n
ESD_3V
6911 BAV99
2929 1n
F026
F027
F028
1908 JFE6338V
To External Mic
PHONE JACK BD 1933
F029
1911 YLJ-35-18-15B
6901 F030
BAS32L
F031
To PC Mic

AUDIO AMP

AUD_4.7V
2901 2u2
3913 100K
LM4839_MUTE
LM4839_MUX_SEL
AUD_4.7V
NI 3911 100K
NI 3910 0R05
DC_VOL
HP_SENSE
3912 100K
7901 LM4839LQ
MUTE
Mux_Control
BASS_BOOST
DC_VOL
HP_SENSE
SHUTDOWN
LEFT_DOCK
LEFT_IN2
LEFT_IN1
RIGHT_IN2
RIGHT_IN1
BEEP
BYPASS
LOUT-
LOUT+
ROUT+
ROUT-
VDD0 VDD1 VDD2
GND0 GND1 GND2 GND3 GND4
2913 47u
2914 100n
2915 100n
2916 100n
AUD_4.7V
I015
2911 68n
2907 220u
I016
5901
3909 1K
F009
F010
SPEAKER
JFE6338V 1903
4901 R
F007
F008
SPEAKER
1904 JFE6338V
I017
2910 68n
2906 220u
I018
5902
3914 1K
ESD_4.7V
6912 BAV99
HP_SENSE
1905 JFE6338V
TO PHONE JACK BD 1931
F023
F022
F021
F020
ESD_4.7V
6913 BAV99
+18V
1906 JFE6339V
TO SCALER BOARD 1704
F011
F012
F013
F014
F015
F016
F017
F018
F019
LM4839_MUX_SEL
LM2596_SD
DC_VOL
LM4839_MUTE
DCSW
8901 41011
1901-A 69028
1901-B 69028
F001
F002
F003
3901 20K
3903 20K
3902 20K
3904 20K
I007
I008
I009
I010
2903 68n
2905 68n
2902 68n
2904 68n
I011
I012
I013
I014
390568K
390768K
3906 68K
3908 68K
I024
2912 100p
2917 100p
2918 100p
2919 100p
1902 YLJ-35-18-15F
F004
F005
F006
From PC Audio
2909 2u2

Ref Des	NI
2925	2238867151 59 15p
3911	3198021510 40 100K
6912	3198010106 20 BAV99
6913	3198010106 20 BAV99

AUDIO + CONTROL BOARD

SB : 56141 x2

PB : 56151

STAND FOR CHIP COMPONENTS.

CHN TYT12-		SETNAME LCD_200P	
CLASS_NO	AUDIO AMP / MIC PREAMP	3138 158 54131	--------
02-05-20 3	200P3G/00C		
NAME Kent	SUPERS. 2	10 130- 1	*** A3
MGr CHECK*******	DATE 02-05-15	KONINKLIJKE PHILIPS ELECTRONICS N.V. 2000	

1901-A E2
1901-B E2
1902 F2
1903 D8
1904 F8
1905 E9
1906 D11
1907 B3
1908 A10
1911 B10
2901 D3
2902 E4
2903 E4
2904 F4
2905 E4
2906 F8
2907 D8
2909 G5
2910 F7
2911 D7
2912 F4
2913 D7
2914 D7
2915 D7
2916 D8
2917 F4
2918 F4
2919 F4
2920 A5
2921 A5
2922 B4
2923 B5
2924 A7
2925 B6
2926 B6
2927 B8
2928 B7
2929 B9
3901 E3
3902 E3
3903 E3
3904 F3
3905 E5
3906 F5
3907 E5
3908 F5
3909 D8
3910 D5
3911 D5
3912 D5
3913 D3
3914 F8
3920 A4
3921 A4
3922 B6
3923 B6
3924 A7
3925 B6
4901 E7
5901 D9
5902 F9
6901 B9
6910 B4
6911 B9
6912 D9
6913 F9
7901 C5
7902 B7
8901 F11
F001 E3
F002 F3
F003 E2
F004 F3
F005 F3
F006 G3
F007 F7
F008 F7
F009 D7
F010 D7
F011 D11
F012 D11
F013 E11
F014 E11
F015 E11
F016 E11
F017 E11
F018 E11
F019 E11
F020 E9
F021 E9
F022 E9
F023 E9
F024 B3
F025 B3
F026 A10
F027 A10
F028 A10
F029 B10
F030 B10
F031 B10

Schematic diagram(AUDIO PWR / KEYPAD)

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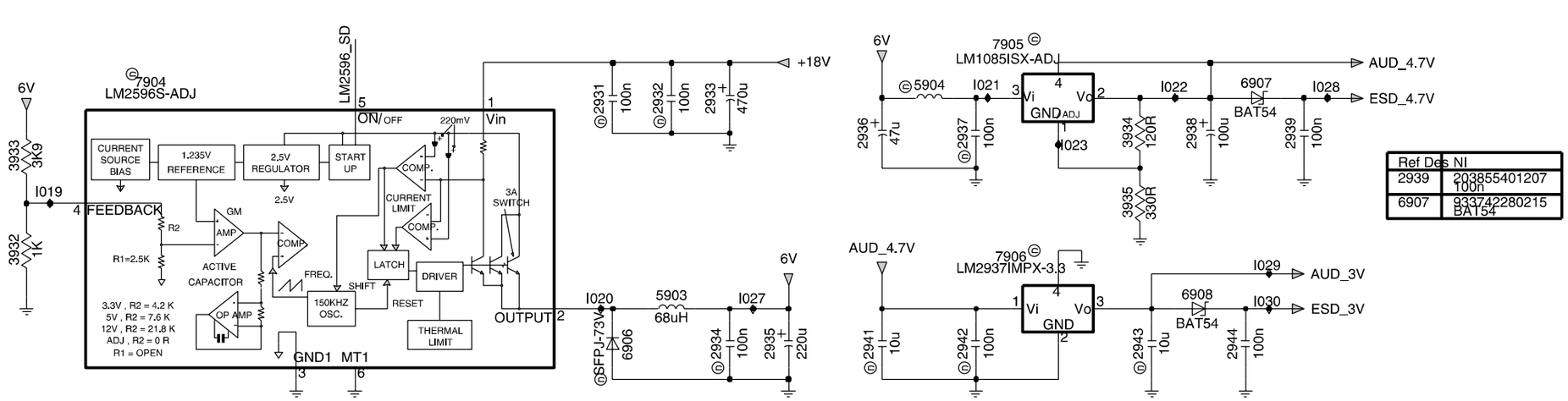
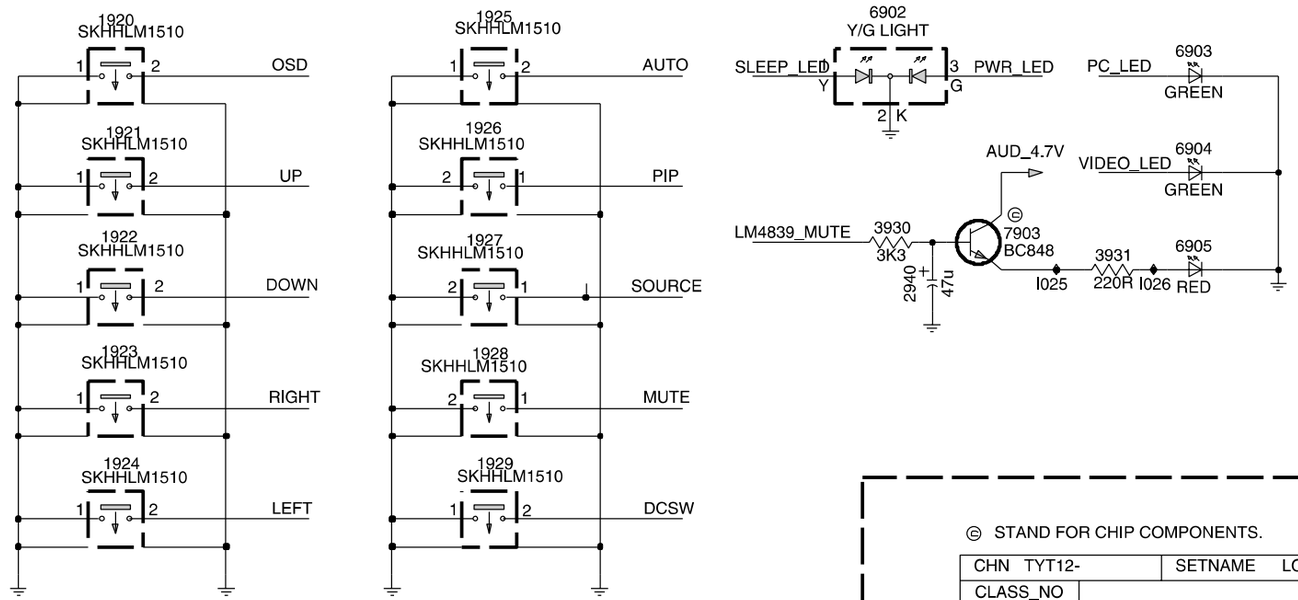
AUDIO + CONTROL BOARD

SB: 56141 x2
PB: 56151

AUDIO POWER



KEYPAD



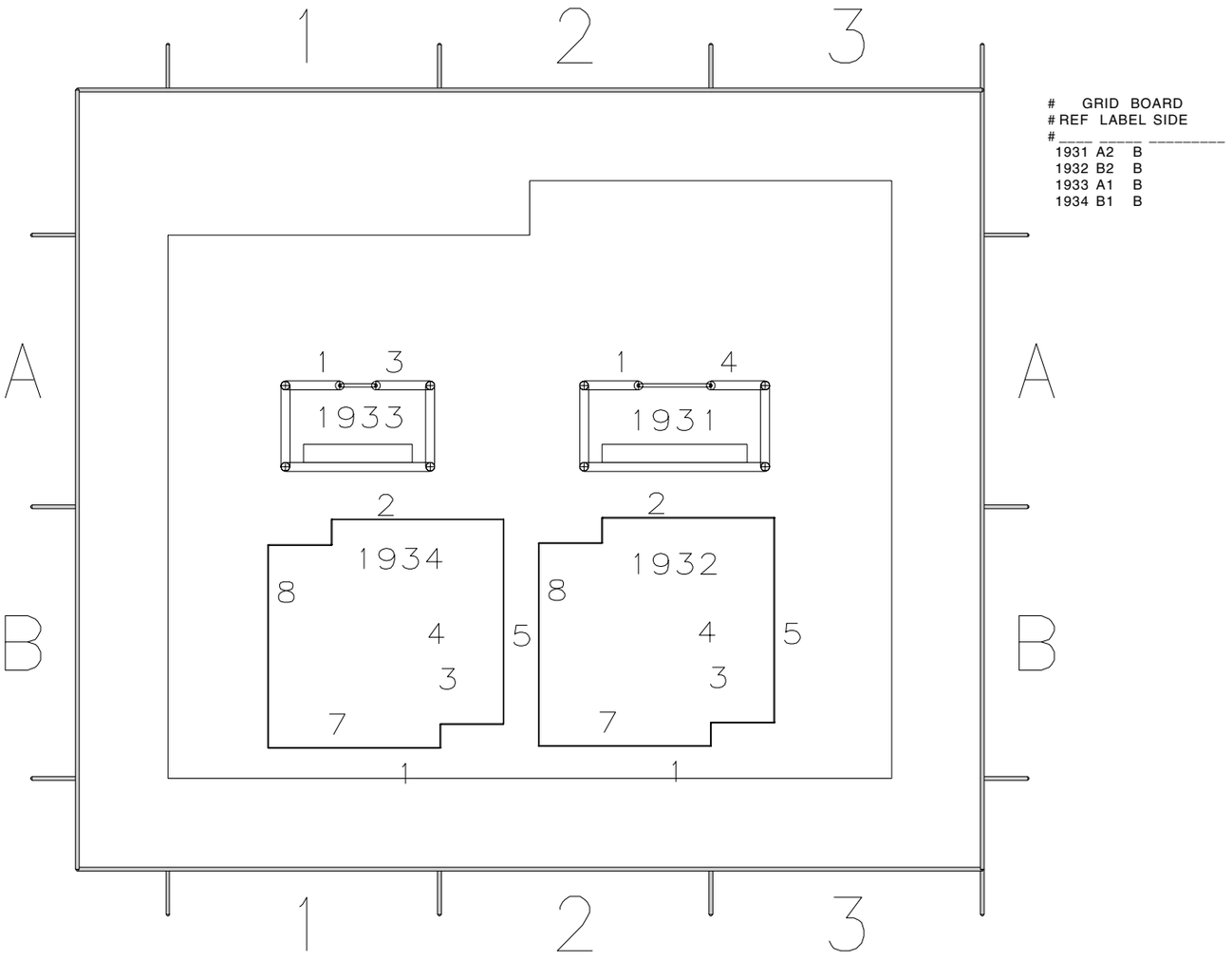
STAND FOR CHIP COMPONENTS.

CHN TYT12-	SETNAME LCD_200P		
CLASS_NO	AUDIO PWR / KEYPAD	3138 158 54131	--------
02-05-20 3	200P3G/00C		
NAME Kent	SUPERS.	2 10 130- 2	*** A3
MGr	CHECK *******	DATE 02-05-15	KONINKLIJKE PHILIPS ELECTRONICS N.V. 2000

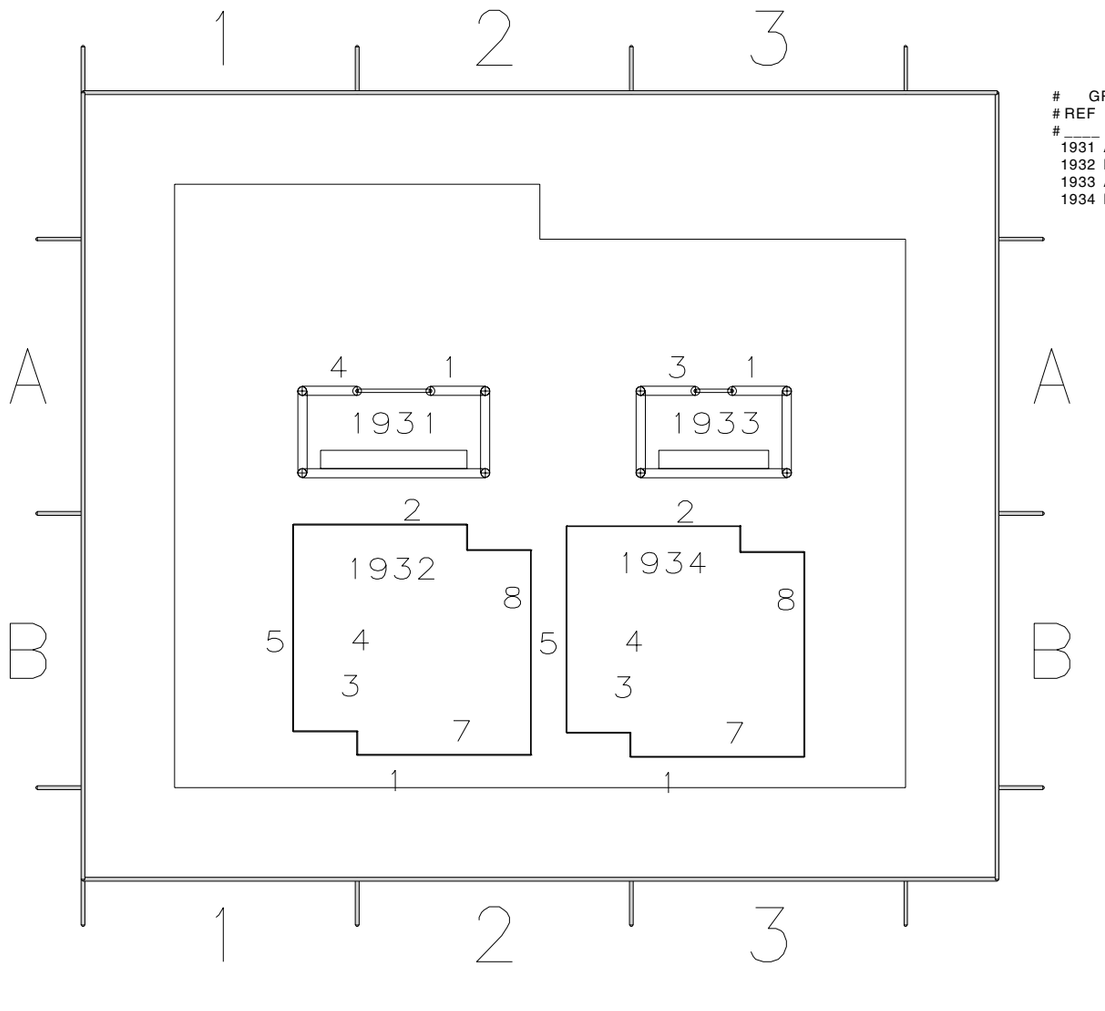
1912 E1
1920 E3
1921 E3
1922 F3
1923 F3
1924 G3
1925 E5
1926 E5
1927 F5
1928 F5
1929 G5
2931 B6
2932 B6
2933 B6
2934 C6
2935 C7
2936 B7
2937 B8
2938 B9
2939 B1
2940 F7
2941 C7
2942 C8
2943 C9
2944 C1
3930 F7
3931 F8
3932 C2
3933 B2
3934 B9
3935 B9
5903 C6
5904 B8
6902 E7
6903 E8
6904 E8
6905 F8
6906 C6
6907 B1
6908 C9
7903 F7
7904 A5
7905 A8
7906 C8
F032 D1
F033 E1
F034 E1
F035 E1
F036 E1
F037 E1
F038 E1
F039 E1
F041 F1
F042 F1
F043 F1
F044 F1
F045 F1
F046 F1

Go to cover page

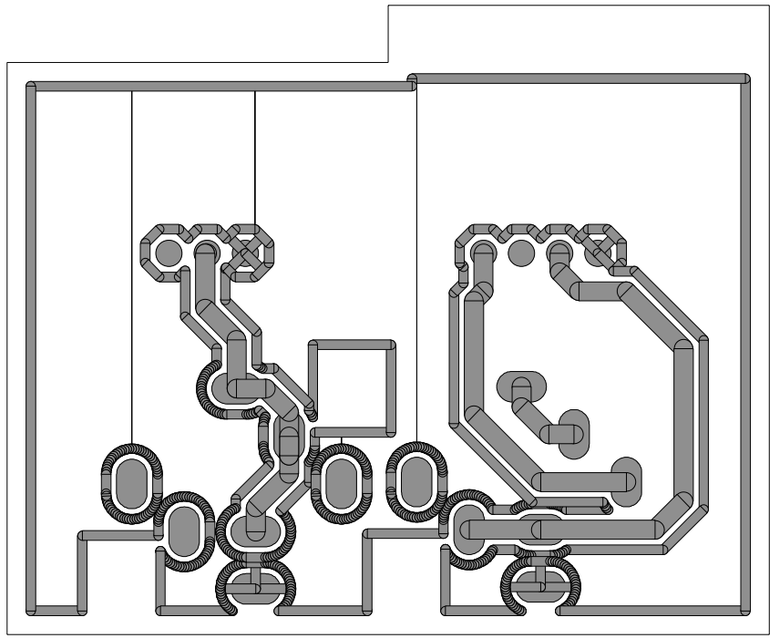
Phone Board C.B.A.(copper track & smc side view)

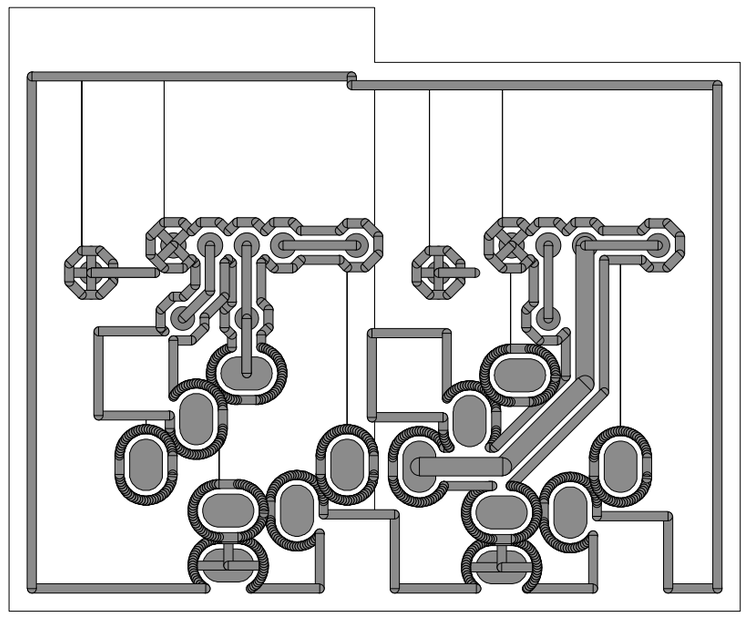


#	GRID	BOARD
# REF	LABEL	SIDE
1931	A2	B
1932	B2	B
1933	A1	B
1934	B1	B



#	GRID	BOARD
# REF	LABEL	SIDE
1931	A2	B
1932	B2	B
1933	A3	B
1934	B3	B





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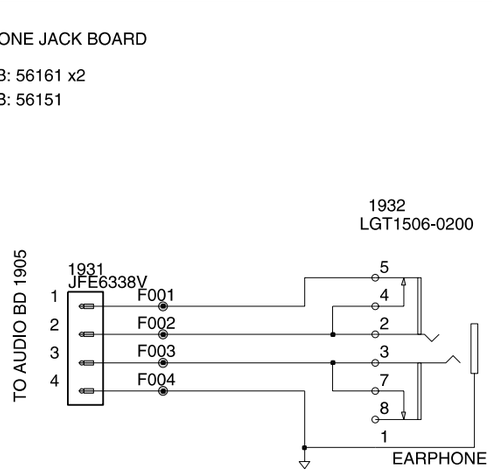
PHILIPS

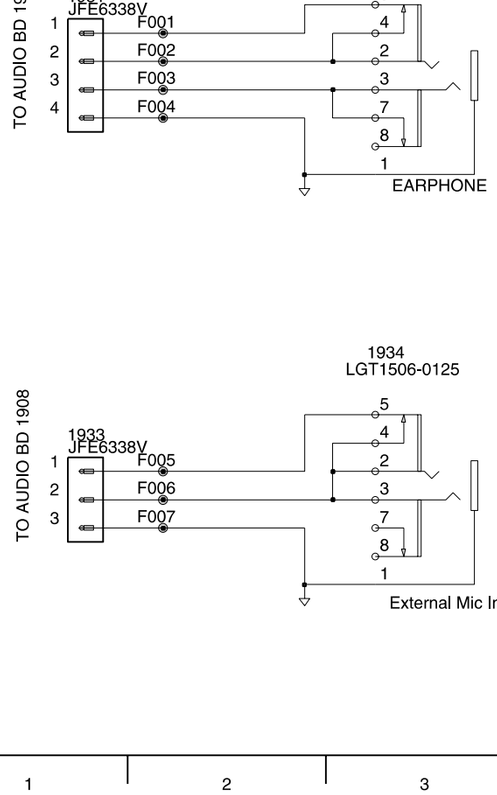
PHONE JACK BOARD

SB: 56161 x2

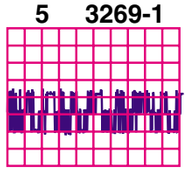
PB: 56151

1931 B1
1932 A3
1933 D1
1934 D3
F001 B2
F002 B2
F003 B2
F004 B2
F005 D2
F006 D2
F007 D2





CHN TYT12-		SETNAME LCD_200P					
CLASS_NO	PHONE JACK BOARD		3138 158 54141			--------	
02-05-20 3	200P3G/00C						
NAME Jack liu		SUPERS.	1	10	130- 1	***	A4
	MGr	CHECK*******	DATE 2002-05-15	KONINKLIJKE PHILIPS ELECTRONICS N.V. 2000			

5 3269-1

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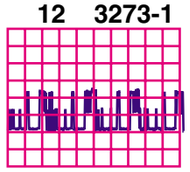
10 uS/div

12 3273-1

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10 uS/div

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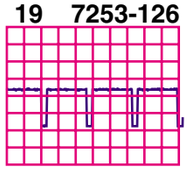
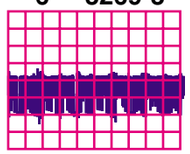

0.5 V/div AC
10 uS/div

6 3269-3

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5 mS/div

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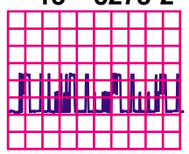
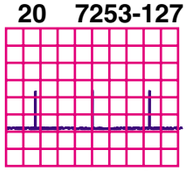

0.5 V/div AC
10 uS/div

20 7253-127

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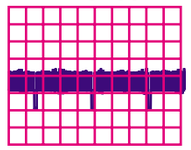
5 mS/div

7 3269-4

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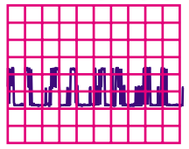
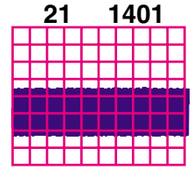
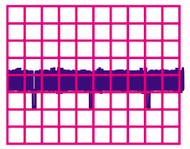
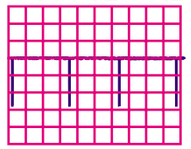
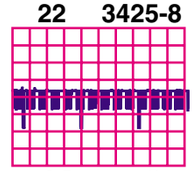
5 mS/div

14 3273-3

0.5 V/div AC
10 uS/div

21 1401

0.2 V/div AC
5 mS/div

8 3271-1

0.5 V/div AC
5 mS/div

15 7253-42

0.5 V/div AC
5 mS/div

22 3425-8

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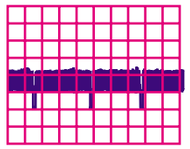
5 mS/div

9 3271-2

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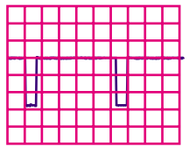
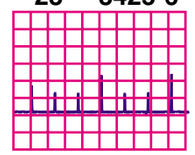
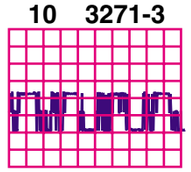
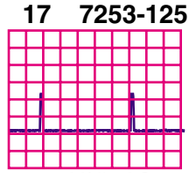
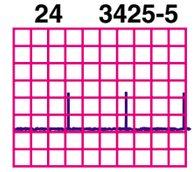
5 mS/div

16 7253-43

0.5 V/div AC
5 uS/div

23 3425-6

0.5 V/div AC
10 uS/div

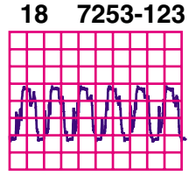
10 3271-3

0.5 V/div AC
10 uS/div

17 7253-125

0.5 V/div AC
5 uS/div

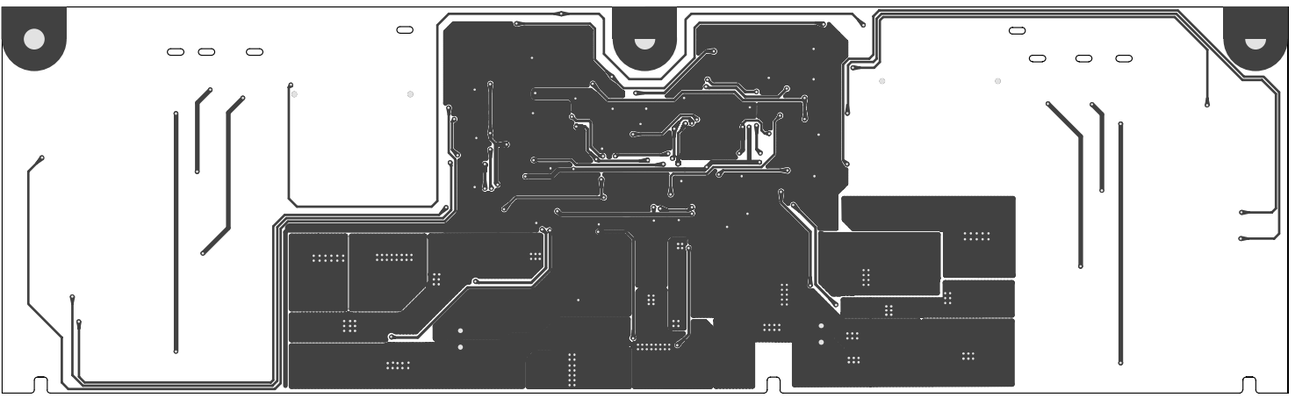
24 3425-5

0.5 V/div AC
5 mS/div

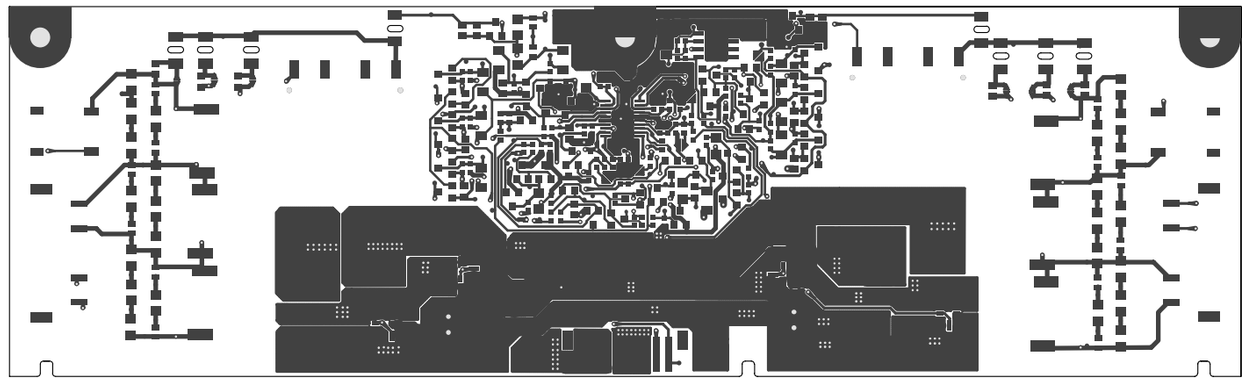
11 3271-4

0.5 V/div AC
10 uS/div

18 7253-123

0.5 V/div AC
20 mS/div

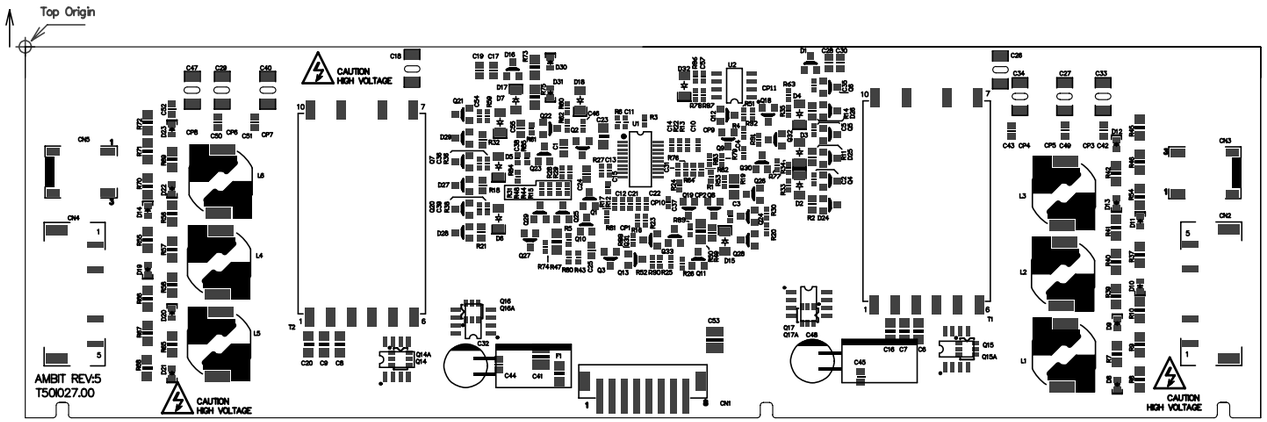
Inverter Diagram PWB(AMBIT)





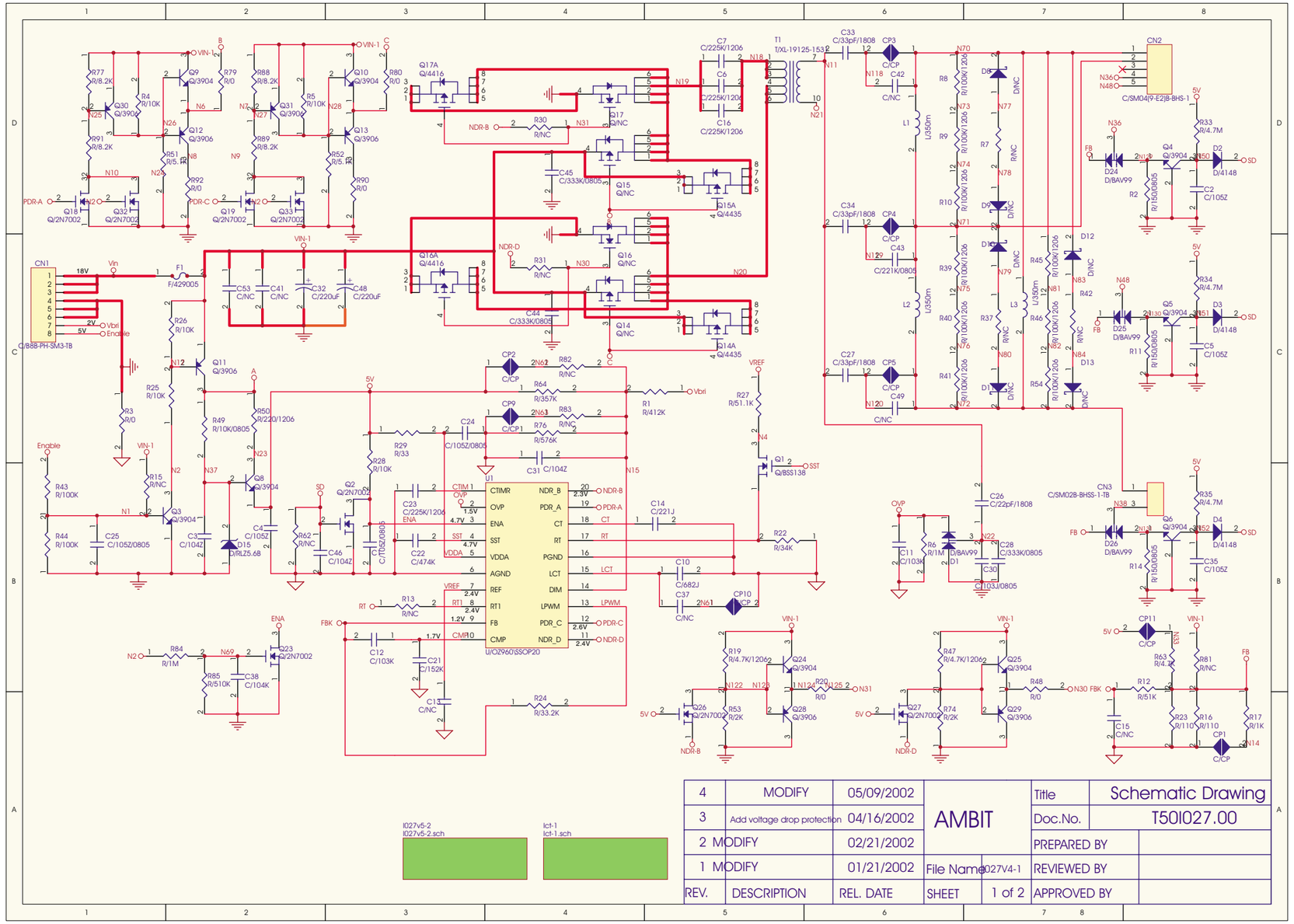
AMBIT	FILM NUMBER	T50I027-00-2C2-06	
SCALE 10MM	Mechanical Layer 1		
	P/N	19.1058.01	
	Rev.	5	3-Jul-2002

AMBIT	FILM NUMBER	T50I027-00-2C1-06	
SCALE 10MM	Mechanical Layer 1		
	P/N	19.1058.01	
	Rev.	5	3-Jul-2002



AMBIT	FILM NUMBER	T50I027-00-2SF-06	
SCALE 10MM	Mechanical Layer 1		
	P/N	19.1058.01	
	Rev.	5	3-Jul-2002

Inverter Diagram(AMBIT)

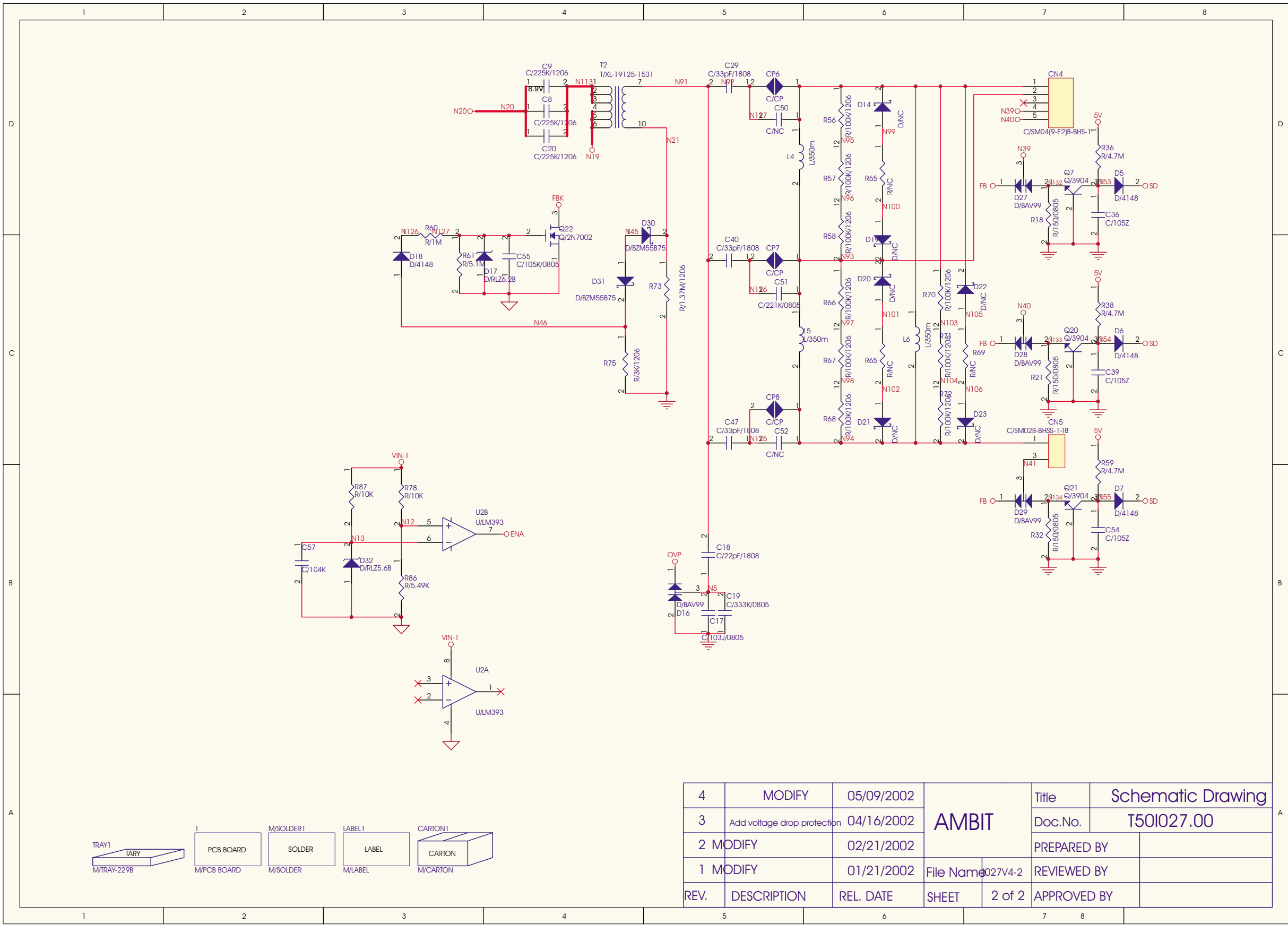


REV.	DESCRIPTION	REL. DATE			
4	MODIFY	05/09/2002	AMBIT	Title	Schematic Drawing
3	Add voltage drop protection	04/16/2002		Doc.No.	T50I027.00
2	MODIFY	02/21/2002		PREPARED BY	
1	MODIFY	01/21/2002	File Name I027V4-1	REVIEWED BY	
			SHEET 1 of 2	APPROVED BY	

T50I027D00 INVERTER LCD 20" FOR LG PAEL DIP

C32 C48	09.0250.31	CAP AL SC025M0220CBT (TEAPO) 220uF/25V/
C17 C30	08.0003.01	CAP C 103J/50V/X7R/0805
C11 C12	08.0100.01	CAP C 103K/50V/X7R/0603
C38 C57	08.0147.01	CAP C 104K/16V/X7R/0603
C3 C31	08.0022.02	CAP C 104Z/25V/Y5V/0603
C55	08.0249.01	CAP C 105K/10V/X7R/0805
C2 C35 C36 C39		
C4 C5C54	08.0183.01	CAP C 105Z/10V/Y5V/0603
C1 C24 C25	08.0020.04	CAP C 105Z/16V/Y5V/0805
C21	08.0355.01	CAP C 152K/50V/X7R/0603
C14	08.0141.01	CAP C 221J/50V/NPO/0603
C43 C51	08.0862.21	CAP C C0805N221J251T (HEC) 221J/250V/
C16 C20 C23		
C6 C7 C8C9	08.0557.14	CAP C 225K/25V/X7R/1206(TDK)
C18 C26	08.0128.21	CAP C 220J/3KV/NPO/1808(HEC)
C19 C28 C44		
C45	08.0027.01	CAP C 333K/50V/X7R/0805
C27 C29 C33		
C34 C40 C47	08.0255.02	CAP C 330J/3KV/NPO/1808(HEC)
	08.0255.01	CAP C 330J/3KV/NPO/1808(PHILIP)
C22	08.0365.01	CAP C 474K/10V/X7R/0603
C10	08.0506.01	CAP C 682J/50V/X7R/0603
CN1	26.0534.01	CONN B8B-PH-SM3-TB (JST) 2mm/UL94V-
CN3 CN5	26.0246.01	CONN SM02B-BHSS-1 (JST)
CN2 CN4	26.0675.01	CONN SM04(9-E2)B-BHS-1-TB(JST)
D18 D2 D3 D4		
D5 D6 D7	06.1007.01	DIO SW LS4148 LL-34(TELEFUNKEN 75V 300mA
D1 D16 D24 D25D26		
D27 D28 D29	06.1003.01	DIO SW BAV99 SOT23 A7,A7P,JE 70V 215mA
	06.1003.02	DIO SW DAN217 SOT23 (ROHM) 80V 100mA 6/27/02 EA
D30 D31	06.1752.29	DIO ZEN BZM55B75-TR(TELEFUNKEN 500mW/73.5
D15 D32	06.1528.02	DIO ZEN RLZ5.6B/TE-11 (ROHM) 500mW/5.45
D17	06.1525.02	DIO ZEN RLZ6.2B/TE-11 (ROHM) 500mW/5.96
F1	26.7021.01	FUSE 429005 5A (LITTEL) 5A/24V/120
L1 L2 L3 L4		
L5 L6	16.0490.01	IND SPC-1005P-354 SMD (TMP) 350mH/K/1.
Q18 Q19 Q22 Q23 Q26		
Q27 Q32 Q33	06.0602.01	NFET 2N7002(E)(LT1) SOT23 60V 115mA
Q10 Q20 Q21 Q24 Q25 Q3 Q4 Q5		
Q6 Q7 Q8 Q9	06.0038.01	TR NPN MMBT3904LT1 SOT23(MOTO) 40V 200mA
	06.0015.01	TR NPN PMBS3904 SOT23(PHILIPS) 40V/200mA/
Q11 Q12 Q13 Q28		
Q29 Q30 Q31	06.0039.01	TR PNP MMBT3906LT1 SOT23(MOTO) 40V 200mA
	06.0016.01	TR PNP PMBS3906 SOT23(PHILIPS) 40V 200mA
Q16A Q17A	06.6003.06	NFET Si4416DY SO8 (SILICONIX) 30V/9A/0.
Q14A Q15A	06.2015.01	PFET Si4435DYA SO8 (SILICONIX) 30V/8A/0.
	06.2131.17	PFET Si4435DY SO8 FAIRCHILD 30V/8.8A/3
Q1	06.0631.01	NFET BSS138 SOT23 (ZETEX) 50V 200mA
R20 R3 R48 R79		
R80 R90 R92	13.0005.03	RES C 0 ohm/0603/5%
R73	14.0549.01	RES C 1.37M ohm/1206/1%
R43 R44	14.0011.03	RES C 100K ohm/0603/1%
R10 R39 R40 R41 R45 R46 R54R56 R57 R58R66 R67 R68 R70 R71		
R72 R8 R913	0001.02	RES C 100K ohm/1206/5%
R25 R26 R28 R4		
R5 R78 R87	13.0032.02	RES C 10K ohm/0603/5%
R49	14.0108.01	RES C 10K ohm/0805/1%
R16 R23	14.0510.01	RES C 110 ohm/0603/1%
R11 R14 R18		
R2 R21 R32	13.0050.01	RES C 150 ohm/0805/5%
R17	13.0006.03	RES C 1K ohm/0603/5%
R6 R60 R84	13.0048.02	RES C 1M ohm/0603/5%
R50	13.0299.01	RES C 220 ohm/1206/5%
R53 R74	13.0199.01	RES C 2K ohm/0603/5%
R29	13.0206.01	RES C 33 ohm/0603/5%
R24	14.0021.02	RES C 33.2K ohm/0603/1%
R22	14.0062.01	RES C 34K ohm/0603/1%
R64	14.0691.01	RES C 357Kohm/0603/1%
R75	13.0041.01	RES C 3K ohm/1206/5%
R63	13.0008.02	RES C 4.7K ohm/0603/5%
R19 R47	13.0008.03	RES C 4.7K ohm/1206/5%
R33 R34 R35		
R36 R38 R59	13.0096.01	RES C 4.7M ohm/0603/5%
R1	14.0574.01	RES C 412K ohm/0603/1%
R51 R52	13.0071.02	RES C 5.1K ohm/0603/5%
R61	13.0339.01	RES C 5.1M ohm/0603/5%
R86	14.0284.01	RES C 5.49K ohm/0603/1%
R27	14.0014.03	RES C 51.1K ohm/0603/1%
R85	13.0047.02	RES C 510K ohm/0603/5%
R12	14.0852.01	RES C 51K ohm/0603/1%
R76	14.0104.01	RES C 576K ohm/0603/1%
R77 R88 R89		
R91	13.0109.02	RES C 8.2K ohm/0603/5%
T1 T2	22.0544.39	XFMR*XL-19125-1531 V:1(XTREME) 31:1500 EE
U2	04.0004.01	IC COMP LM393M SO8 (NS) DUAL COMP
	04.0004.02	IC COMP LM393D SO8 (TI) DUAL COMP
U1	04.3040.03	IC OZ960DS-1.0 +-10% SSOP20/O2 1496+-10%/
	04.3040.02	IC OZ960DS-1.0 +-4% SSOP20(O2) 1496+-4%/I

Inverter Diagram(AMBIT)



TRAY1 TARY M/TRAY-229B
1 PCB BOARD M/PCB BOARD
M/SOLDER1 SOLDER M/SOLDER
LABEL1 LABEL M/LABEL
CARTON1 CARTON M/CARTON

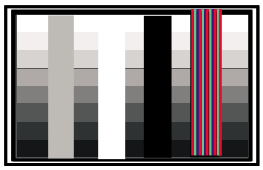
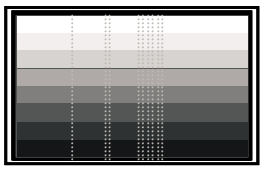
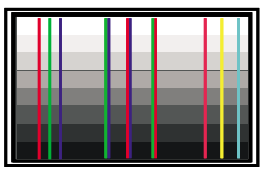
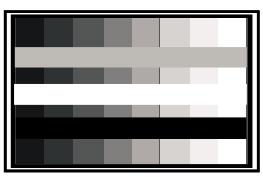
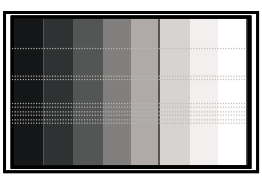
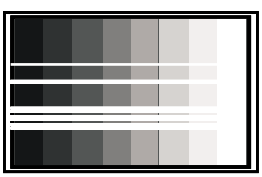
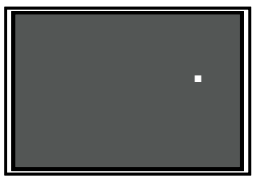
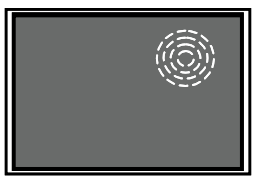
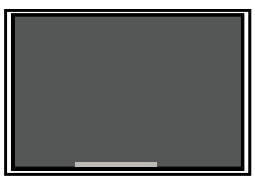
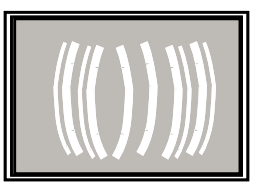
REV.	DESCRIPTION	REL. DATE		
4	MODIFY	05/09/2002	AMBIT	Title: Schematic Drawing
3	Add voltage drop protection	04/16/2002		Doc.No.: T50I027.00
2	MODIFY	02/21/2002		PREPARED BY
1	MODIFY	01/21/2002	File Name: 027V4-2	REVIEWED BY
			SHEET: 2 of 2	APPROVED BY

Failure Mode of LCD panel

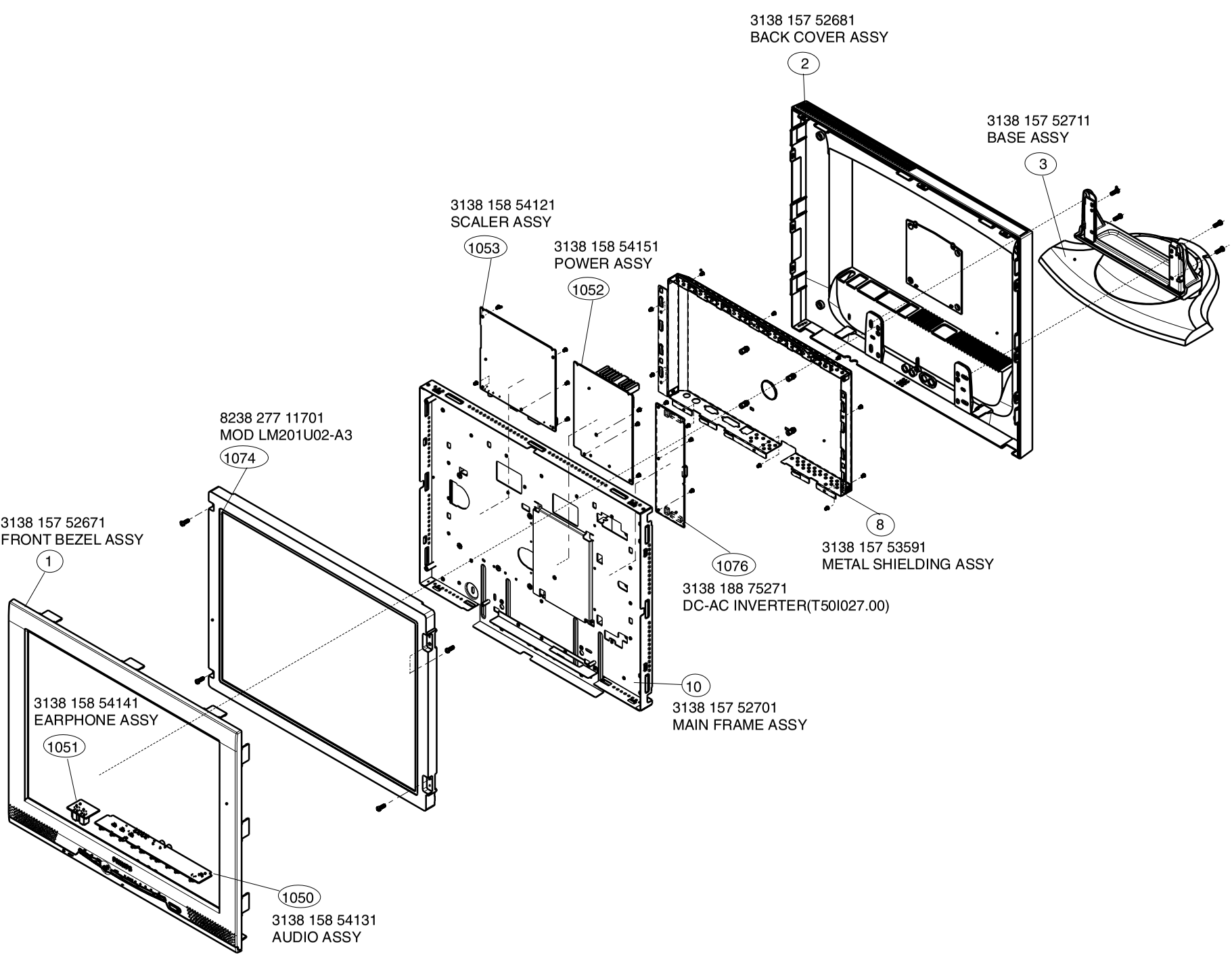
Go to cover page

Quick reference for failure mode of LCD panel

This page presents problems that could be made by LCD panel. It is not necessary to repair circuit board. Simply follow the Mechanical instruction o n this manual to eliminate failure by replace LCD panel or backlight tubes.

Failure description	Phenomenon
Vertical block defect	
Vertical dim lines	
Vertical lines defect (Always bright or dark)	
Horizontal block defect	
Horizontal dim lines	
Horizontal lines defect (Always bright or dark)	
Has bright or dark pixel	
Polarizer has bubbles	
Polarizer has bubbles	
Foreign material inside polarizer. It shows linear or dot shape.	
Concentric circle formed	
Bottom back light of LCD is brighter than normal	
Backlight un-uniformity	
Backlight has foreign material. Black or white color, linear or circular type	

Exploded View



Recommended Parts List

Go to cover page

Model: 200P3G/00C

Item	Code number	Description
1	313815752671	FRONT CABINET ASSY
2	313815752681	BACK COVER ASSY
3	313815752711	BASE ASSY
4	313815752691	HINGE ASSY
5	313815752721	PLATE BASE ASSY
32	313815405942	FUNCTION KNOB
33	313815405951	POWER BUTTON
35	313815405991	KNOB PC VIDEO
36	313815405961	LENS MUTE
37	313815406521	LENS-POWER
1073	313812874931	MAINSCORD
1077	313818872261	CORD SUB-D 15/2M0/15 SUB-D F B
1078	313818872251	CORD DVI 1M8 SUB-D F 15 BLK
1081	313818875051	SPEAKER CABLE(BLACK)
1082	313818875061	MIC. CABLE (BLACK)
450	313815632852	CARTON
451	313815632861	CUSHION-BOTTOM
452	313815632871	CUSHION-TOP
453	313810656651	PE BAG
601	313811704281	E-D.F.U. ASSY

Analog DDC IC (pos. 7601, 128 bytes data) with serial number :
=> updated by DDC Alignment kit.

Digital DDC IC (pos. 7201, 128 bytes data) with serial number :
=> updated by DDC Alignment kit.

EEPROM (pos. 7463, OSD data, Factory data) with serial number :
=> updated by another tool and application software.

7461 => Flash ROM with Firmware

1102	242208610239	FUSE 5X20 HT 3A15 250V IEC	B
7061	932217683682	IC L4973V5.1 (ST)	L
7071	932216562682	IC L4978 (ST)	L
7101	932213028682	IC L5991 (ST)	L
7102	932216376687	FET POW STU9NC80ZI (ST)	L
7103	932218664668	FET POW SM STD2NC50 (ST)	R
7104	932214014667	OPT CP TCET1103(G) (VISH)	L
7106	933771100686	IC TL431CLP S (MOTA)	R
7201	932214526668	IC SM M24C02-WMN6 (ST)	R
7204	935245720118	IC SM 74HCT1G14GW (PHSE)	R
7251	932218493668	IC SM LM2937IMP-3.3 (NSC0)	R
7252	932218487685	IC SM LM3480IM3-3.3 (NSC0)	R
7253	932218279671	IC SM AD9888KS-205 (ANA0)	Y
7301	932218466671	IC SM THC63DV161 (THIN)	Y
7341	932217104671	IC SM SII160CT1 (SIIM)	Y
7401	823827711951	SCALER IC (PW171B-20U)	
7461	932218665671	IC SM M29W8 DT-90N1 (ST)	Y
7463	932212209682	IC M24C32-WBN6 (ST)	L
7471	932218463682	IC SM TLC7733ID (TI)	L
7602	935241100118	IC SM 74LVC126AD (PHSE)	R
7631	935267395518	IC SM SAA7118E/V1 (PHSE)	R
7701	935260901118	IC SM 74LVC541AD (PHSE)	R
7706	932218367668	IC SM M62334FP (MITJ)	R
7752	932218206685	IC SM IRU1206-25CY (INR0)	R
7753	932202899668	FET POW SM SI4835DY (VISH)	R
7901	932218485685	IC SM LM4839LQ (NSC0)	R
7902	932218488685	IC SM LMV821M5 (NSC0)	R
7904	932213086661	IC SM LM2596S-ADJ (NSC0)	R
7905	932216622682	IC SM LM1085IS-ADJ (NSC0)	L
7906	932218493668	IC SM LM2937IMP-3.3 (NSC0)	R

Recommended parts list of Inverter board :(T501027.00, Ambit)

Pos.	Service code	Description		supplier code
T1	9965 000 14739	TRANSFORMER	XFMR*XL-19125-1531	22.0544.39
U2	9965 000 12328	IC ANA VOLT./CURR. REGULATOR	IC COMP LM393M SO8(NO) DUAL COMP	04.0004.01
U1	9965 000 14740	IC ANA OTHERS	IC OZ960DS	04.3040.03
C32	9965 000 14741	CAPACITOR, ELECTROLYTIC ALU	CAP 220UF/25V	09.0250.31
C43	9965 000 14742	CAPACITOR, FILM	CAP 221J/250V	08.0862.21
C16	9965 000 14743	CAPACITOR, CERAMIC SMD	CAP 225K/25V/X7R/1206(TDK)	08.2557.14
C18	9965 000 14744	CAPACITOR, CERAMIC SMD	CAP 220J/3KV/NPO/1808(HEC)	08.0128.21
C19	9965 000 14745	CAPACITOR, CERAMIC SMD	CAP 333K/50V/X7R/0805	08.0027.01
C27	9965 000 14746	CAPACITOR, CERAMIC SMD	CAP 330J/3KV/NPO/1808(HEC)	08.0255.02
C22	9965 000 14747	CAP 474K/10V/X7R/0603	CAP 474K/10V/X7R/0603	08.0365.01
C10	9965 000 14748	CAPACITOR, CERAMIC SMD	CAP 682J/50V/X7R/0603	08.05060.1
D18	5322 130 83609	DIODE	LS4148/GS08	06.1007.01
D16	5322 130 34337	DIODE	BAV99	06.1003.01
D30	9965 000 14749	DIODE, REFERENCE	DIO ZEN BZM55B75-TR 500MW/73.5	06.1752.29
D15	9965 000 12954	DIODE, REFERENCE	DIO ZEN RLZ5.6B/TE-11(ROHM),	06.1528.02
D17	9965 000 14750	DIODE, REFERENCE	DIO ZEN RL6.2B/TE-11(ROHM) 500MW	06.12525.02
F1	9965 000 12955	FUSE	FUSE 4290005 5A (LITTEL)	26.7021.01
L1	9965 000 12391	COIL	IND SPC-1005P-354-SMD(TMP) , L2	16.0490.01
Q18	4822 130 11057	TRANSISTOR, FET <1W	2N7002	06.0602.01
Q10	9965 000 08855	TRANSISTOR, <1W	TR NPN MMBT3904LT1 SOT23(MOTOROL	06.0038.01
Q11	9965 000 12392	TRANSISTOR, <1W	TR PNP MMBT3906LT1 SOT23(MOTOROL	06.0039.01
Q16A	9965 000 12958	TRANSISTOR, FET >=1W	NFET SI4416DY SO8(LILICONIX)	06.6003.06
Q14A	9965 000 14751	TRANSISTOR, FET >=1W	PFET SI4435DYA S08 30V/8A	06.2015.01
Q1	9965 000 12956	TRANSISTOR, FET <1W	NFET BSS138SOT23(ZETEX)	06.0631.01

Spare Parts List

Parts indicated on exploded view :
CTVs : 200P3G/00C

1	313815752671	FRONT CABINET ASSY
2	313815752681	BACK COVER ASSY
3	313815752711	BASE ASSY
4	313815752691	HINGE ASSY
5	313815752721	PLATE BASE ASSY
10	313815752701	MAIN FRAME ASSY
31	313815405932	FRONT CABINET
32	313815405942	FUNCTION KNOB
33	313815405951	POWER BUTTON
34	313815405971	FRONT CABINET-CHIN
35	313815405991	KNOB PC VIDEO
36	313815405961	LENS MUTE
37	313815406521	LENS-POWER
38	313815320561	RUBBER FOOT(20X6MMX0.6T)
39	313815320571	RUBBER FOOT(15X6MMX0.6T)
41	313815406001	BACK COVER
42	313815406081	VESA COVER
51	313815406021	BASE
52	313815406031	BASE COVER-FRONT
53	313815406041	BASE COVER-BACK
54	313815406051	HINGE COBER-TOP
55	313815406061	HINGE COVER-BUTTON
56	313815406071	CABLE COVER
58	313815403871	RUBBER- FOOT
60	313815131291	GASKET
65	313815132241	TOP PLATE BASE
66	313815132371	BUTTON PLATE BASE
71	313815132331	HINGR BODY-L/R
72	313815132341	PLATE HINGE
73	313815132551	EAR BRACKET (L/R)-HINGE
78	313815160381	CLIP
99	313815555631	PLASTIC COVER
104	313815406531	CAP-PS2
121	313815320071	EXSICCATOR
1074	823827711701	TFT-LCD MOD LM201U02-A3
1077	313818872261	CORD SUB-D 15/2M0/15 SUB-D F B
1078	313818872251	CORD DVI 1M8 SUB-D F 15 BLK
1079	313818874531	CORD MD 4/1M8/4 MD M/M BK
1080	313818874551	CORD MD 4/1M8/4 MD M/M BK

Various

450	313815632852	CARTON
451	313815632861	CUSHION-BOTTOM
452	313815632871	CUSHION-TOP
453	313810656651	PE BAG

Accessories

601	313811704281	E-D.F.U. ASSY
1073▲	313812874931	MAINSCORD
1081	313818875051	SPEAKER CABLE(BLACK)
1082	313818875061	MIC. CABLE (BLACK)

Main Panel

1050	313815854131	AUDIO ASSY
1051	313815854141	EARPHONE ASSY
1052	313815854151	POWER ASSY
1053	313815854121	SCALER ASSY
1076	313818875271	DC-AC INVERTER(T50I027.)
1084	823827712191	SPEAKER ASSY
1085	313818874981	MICROPHONE ASSY

Scaler Panel

1053	313815854121	SCALER ASSY

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2201	223824615654	CER2 0603 X7R 10V 220N PM10 R
2202	223824615654	CER2 0603 X7R 10V 220N PM10 R
2203	223886715339	CER1 0603 NP0 50V 33P PM5 R
2204	223886715339	CER1 0603 NP0 50V 33P PM5 R
2205	223886715331	CER1 0603 NP0 50V 330P PM5 R
2206	223886715339	CER1 0603 NP0 50V 33P PM5 R
2208	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2209	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2210	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2211	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2212	223886715339	CER1 0603 NP0 50V 33P PM5 R
2213	223886715331	CER1 0603 NP0 50V 330P PM5 R
2214	223886715339	CER1 0603 NP0 50V 33P PM5 R
2215	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2216	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2249	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2251	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2252	222224119876	CER2 1206 Y5V 10V 10U P8020 R
2253	202001293747	ELCAP SM RV2 25V 47U PM20 R
2254	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2255	222224119876	CER2 1206 Y5V 10V 10U P8020 R
2256	202001293747	ELCAP SM RV2 25V 47U PM20 R
2257	222224119876	CER2 1206 Y5V 10V 10U P8020 R
2258	202001293747	ELCAP SM RV2 25V 47U PM20 R
2261	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2262	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2263	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2264	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2265	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2266	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2267	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2268	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2269	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2270	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2271	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2272	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2273	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2274	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2275	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2276	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2277	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2278	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2279	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2280	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2281	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2282	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2283	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2284	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2285	223858015644	CER2 0805 X7R 50V 39N PM10 R
2286	223858015631	CER2 0805 X7R 50V 3N9 PM10 R
2287	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2288	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2289	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2290	223878615645	CER2 0603 X7R 16V 47N PM10 R
2291	223878615645	CER2 0603 X7R 16V 47N PM10 R
2292	223858615623	CER2 0603 X7R 50V 1N PM10 R
2293	223878615645	CER2 0603 X7R 16V 47N PM10 R
2294	223878615645	CER2 0603 X7R 16V 47N PM10 R
2295	223878615645	CER2 0603 X7R 16V 47N PM10 R
2296	223858615623	CER2 0603 X7R 50V 1N PM10 R
2297	223878615645	CER2 0603 X7R 16V 47N PM10 R
2301	223886715471	CER1 0603 NP0 50V 470P PM5 R
2302	223886715471	CER1 0603 NP0 50V 470P PM5 R
2303	223886715471	CER1 0603 NP0 50V 470P PM5 R
2304	223886715471	CER1 0603 NP0 50V 470P PM5 R
2305	223886715471	CER1 0603 NP0 50V 470P PM5 R
2306	223886715471	CER1 0603 NP0 50V 470P PM5 R
2307	223886715471	CER1 0603 NP0 50V 470P PM5 R
2308	223886715471	CER1 0603 NP0 50V 470P PM5 R
2309	223886715471	CER1 0603 NP0 50V 470P PM5 R
2310	223886715471	CER1 0603 NP0 50V 470P PM5 R
2311	223886715471	CER1 0603 NP0 50V 470P PM5 R
2312	223886715471	CER1 0603 NP0 50V 470P PM5 R
2313	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2314	222224119876	CER2 1206 Y5V 10V 10U P8020 R
2315	222224119876	CER2 1206 Y5V 10V 10U P8020 R
2316	202001293747	ELCAP SM RV2 25V 47U PM20 R
2317	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2318	222224119876	CER2 1206 Y5V 10V 10U P8020 R
2320	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2321	222224119876	CER2 1206 Y5V 10V 10U P8020 R
2322	202001293747	ELCAP SM RV2 25V 47U PM20 R
2323	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2326	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2327	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2341	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2342	222224119876	CER2 1206 Y5V 10V 10U P8020 R
2343	223886715331	CER1 0603 NP0 50V 330P PM5 R
2344	223886715331	CER1 0603 NP0 50V 330P PM5 R
2345	223886715101	CER1 0603 NP0 50V 1 P PM5 R
2346	223886715181	CER1 0603 NP0 50V 180P PM5 R
2347	223886715181	CER1 0603 NP0 50V 180P PM5 R
2348	223886715181	CER1 0603 NP0 50V 180P PM5 R
2349	223886715331	CER1 0603 NP0 50V 330P PM5 R
2350	223886715331	CER1 0603 NP0 50V 330P PM5 R
2351	202001293747	ELCAP SM RV2 25V 47U PM20 R
2352	202001293747	ELCAP SM RV2 25V 47U PM20 R
2353	222224119876	CER2 1206 Y5V 10V 10U P8020 R
2354	223886715331	CER1 0603 NP0 50V 330P PM5 R
2355	223886715331	CER1 0603 NP0 50V 330P PM5 R
2356	223886715331	CER1 0603 NP0 50V 330P PM5 R
2357	222224119876	CER2 1206 Y5V 10V 10U P8020 R
2358	223886715101	CER1 0603 NP0 50V 1 P PM5 R
2360	222224119876	CER2 1206 Y5V 10V 10U P8020 R
2361	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2363	223886715331	CER1 0603 NP0 50V 330P PM5 R
2364	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2401	222224119876	CER2 1206 Y5V 10V 10U P8020 R
2402	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2403	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2404	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2405	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2406	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2407	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2408	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2409	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2410	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2411	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2412	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2413	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2414	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2415	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2416	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2417	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2418	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2419	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2420	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2421	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2422	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2423	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2424	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2425	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2426	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2427	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2428	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2429	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2430	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2431	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2432	223886715109	CER1 0603 NP0 50V 10P PM5 R
2433	223886715109	CER1 0603 NP0 50V 10P PM5 R
2434	202001293747	ELCAP SM RV2 25V 47U PM20 R
2435	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2438	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2439	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2440	222224119876	CER2 1206 Y5V 10V 10U P8020 R
2441	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2442	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2443	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2444	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2445	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2446	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2447	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2448	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2449	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2450	223878615649	CER2 0603 X7R 16V 1 N PM10 R

2451	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2452	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2453	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2454	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2455	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2456	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2457	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2458	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2459	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2460	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2464	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2468	222224119876	CER2 1206 Y5V 10V 10U P8020 R
2469	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2470	222278019763	CER2 0805 Y5V 16V 1U PM20 R
2471	222278019763	CER2 0805 Y5V 16V 1U PM20 R
2472	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2601	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2602	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2603	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2605	223886715339	CER1 0603 NP0 50V 33P PM5 R
2606	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2607	223886715339	CER1 0603 NP0 50V 33P PM5 R
2608	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2609	222224119876	CER2 1206 Y5V 10V 10U P8020 R
2610	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2615	223886715339	CER1 0603 NP0 50V 33P PM5 R
2631	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2632	202001293747	ELCAP SM RV2 25V 47U PM20 R
2634	202001293747	ELCAP SM RV2 25V 47U PM20 R
2636	202001293747	ELCAP SM RV2 25V 47U PM20 R
2637	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2638	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2639	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2640	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2641	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2642	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2643	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2644	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2645	222224119876	CER2 1206 Y5V 10V 10U P8020 R
2646	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2647	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2648	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2649	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2650	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2651	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2652	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2653	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2654	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2655	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2656	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2657	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2658	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2659	222224119876	CER2 1206 Y5V 10V 10U P8020 R
2660	223886115159	CER1 0805 NP0 50V 15P PM5 R
2661	223886115159	CER1 0805 NP0 50V 15P PM5 R
2662	223858015623	CER2 0805 X7R 50V 1N PM10 R
2665	223824615654	CER2 0603 X7R 10V 220N PM10 R
2666	223878615645	CER2 0603 X7R 16V 47N PM10 R
2667	223878615645	CER2 0603 X7R 16V 47N PM10 R
2668	223878615645	CER2 0603 X7R 16V 47N PM10 R
2669	223878615645	CER2 0603 X7R 16V 47N PM10 R
2670	223878615645	CER2 0603 X7R 16V 47N PM10 R
2671	223878615645	CER2 0603 X7R 16V 47N PM10 R
2672	223878615645	CER2 0603 X7R 16V 47N PM10 R
2673	223878615645	CER2 0603 X7R 16V 47N PM10 R
2674	223878615645	CER2 0603 X7R 16V 47N PM10 R
2701	222224119876	CER2 1206 Y5V 10V 10U P8020 R
2702	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2703	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2704	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2705	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2706	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2707	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2708	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2709	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2710	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2711	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2712	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2713	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2714	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2715	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2716	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2717	222224119876	CER2 1206 Y5V 10V 10U P8020 R
2718	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2719	222224119876	CER2 1206 Y5V 10V 10U P8020 R
2720	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2721	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2722	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2723	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2724	202001293747	ELCAP SM RV2 25V 47U PM20 R
2725	222258015649	CER2 0805 X7R 50V 1 N PM10 R
2726	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2727	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2728	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2729	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2730	202001293747	ELCAP SM RV2 25V 47U PM20 R
2731	222258015649	CER2 0805 X7R 50V 1 N PM10 R
2734	223824615654	CER2 0603 X7R 10V 220N PM10 R
2751	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2752	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2754	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2755	202203100068	ELCAP GL 25V S 470U PM20 B
2756	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2757	202203100068	ELCAP GL 25V S 470U PM20 B
2758	222258015649	CER2 0805 X7R 50V 1 N PM10 R
2759	202203100068	ELCAP GL 25V S 470U PM20 B
2760	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2761	202001293747	ELCAP SM RV2 25V 47U PM20 R
2762	222224119876	CER2 1206 Y5V 10V 10U P8020 R
2763	222258015649	CER2 0805 X7R 50V 1 N PM10 R
2764	202001293747	ELCAP SM RV2 25V 47U PM20 R
2765	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2766	202001293747	ELCAP SM RV2 25V 47U PM20 R
2767	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2768	202001293747	ELCAP SM RV2 25V 47U PM20 R
2769	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2770	202001293747	ELCAP SM RV2 25V 47U PM20 R
2771	222224119876	CER2 1206 Y5V 10V 10U P8020 R
2772	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2773	202001293747	ELCAP SM RV2 25V 47U PM20 R
2774	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2775	202001293747	ELCAP SM RV2 25V 47U PM20 R

3204	319802131040	RST SM 0603 1 K PM5 COL
3205	319802131010	RST SM 0603 1 R PM5 COL
3206	319802131010	RST SM 0603 1 R PM5 COL
3207	319802131030	RST SM 0603 10K PM5 COL
3208	319802131030	RST SM 0603 10K PM5 COL
3211	319802137590	RST SM 0603 75R PM5 COL
3213	319802137590	RST SM 0603 75R PM5 COL
3215	319802137590	RST SM 0603 75R PM5 COL
3216	319802131010	RST SM 0603 1 R PM5 COL
3217	319802132220	RST SM 0603 2K2 PM5 COL
3218	319802131010	RST SM 0603 1 R PM5 COL
3219	319802132220	RST SM 0603 2K2 PM5 COL
3246	319802131010	RST SM 0603 1 R PM5 COL
3248	319802131010	RST SM 0603 1 R PM5 COL
3251	319802133320	RST SM 0603 3K3 PM5 COL
3254	319802131030	RST SM 0603 10K PM5 COL
3255	319802131030	RST SM 0603 10K PM5 COL
3256	319802131030	RST SM 0603 10K PM5 COL
3257	319802190030	RST SM 0603 JUMP. 0R05 COL
3258	319802190030	RST SM 0603 JUMP. 0R05 COL
3260	319802190030	RST SM 0603 JUMP. 0R05 COL
3261	319802190030	RST SM 0603 JUMP. 0R05 COL
3262	319802190030	RST SM 0603 JUMP. 0R05 COL
3263	319802190030	RST SM 0603 JUMP. 0R05 COL
3264	319802190030	RST SM 0603 JUMP. 0R05 COL
3265	319802134790	RST SM 0603 47R PM5 COL
3266	319802134790	RST SM 0603 47R PM5 COL
3267	319802134790	RST SM 0603 47R PM5 COL
3268	319802134790	RST SM 0603 47R PM5 COL
3269	235003510479	RST NETW SM ARV24 4X 47R PM5 R
3270	235003510479	RST NETW SM ARV24 4X 47R PM5 R
3271	235003510479	RST NETW SM ARV24 4X 47R PM5 R
3272	235003510479	RST NETW SM ARV24 4X 47R PM5 R
3273	235003510479	RST NETW SM ARV24 4X 47R PM5 R
3274	235003510479	RST NETW SM ARV24 4X 47R PM5 R
3275	235003510479	RST NETW SM ARV24 4X 47R PM5 R
3276	235003510479	RST NETW SM ARV24 4X 47R PM5 R
3277	235003510479	RST NETW SM ARV24 4X 47R PM5 R
3278	235003510479	RST NETW SM ARV24 4X 47R PM5 R
3279	235003510479	RST NETW SM ARV24 4X 47R PM5 R
3280	235003510479	RST NETW SM ARV24 4X 47R PM5 R
3301	319802133910	RST SM 0603 390R PM5 COL
3302	319802131030	RST SM 0603 10K PM5 COL
3308	319802134790	RST SM 0603 47R PM5 COL
3309	319802134790	RST SM 0603 47R PM5 COL
3310	235003510479	RST NETW SM ARV24 4X 47R PM5 R
3311	235003510479	RST NETW SM ARV24 4X 47R PM5 R
3312	235003510479	RST NETW SM ARV24 4X 47R PM5 R
3313	235003510479	RST NETW SM ARV24 4X 47R PM5 R
3314	235003510479	RST NETW SM ARV24 4X 47R PM5 R
3315	235003510479	RST NETW SM ARV24 4X 47R PM5 R
3316	235003510479	RST NETW SM ARV24 4X 47R PM5 R
3317	235003510479	RST NETW SM ARV24 4X 47R PM5 R
3318	235003510479	RST NETW SM ARV24 4X 47R PM5 R
3319	235003510479	RST NETW SM ARV24 4X 47R PM5 R
3320	235003510479	RST NETW SM ARV24 4X 47R PM5 R
3321	235003510479	RST NETW SM ARV24 4X 47R PM5 R
3323	319802190030	RST SM 0603 JUMP. 0R05 COL
3324	319802190030	RST SM 0603 JUMP. 0R05 COL
3325	319802190030	RST SM 0603 JUMP. 0R05 COL
3327	319802134790	RST SM 0603 47R PM5 COL
3341	232270466201	RST SM 0603 RC22H 620R PM1 R
3342	319802131020	RST SM 0603 1K PM5 COL
3343	319802131030	RST SM 0603 10K PM5 COL
3345	319802131030	RST SM 0603 10K PM5 COL
3346	319802131030	RST SM 0603 10K PM5 COL
3347	319802190030	RST SM 0603 JUMP. 0R05 COL
3348	319802131010	RST SM 0603 1 R PM5 COL
3349	319802131010	RST SM 0603 1 R PM5 COL
3350	319802131010	RST SM 0603 1 R PM5 COL
3351	319802131010	RST SM 0603 1 R PM5 COL
3352	319802131210	RST SM 0603 120R PM5 COL
3401	319802133320	RST SM 0603 3K3 PM5 COL
3402	319802133320	RST SM 0603 3K3 PM5 COL
3403	235003510101	RST NETW SM ARV24 4X1 R PM5 R
3404	235003510101	RST NETW SM ARV24 4X1 R PM5 R
3405	235003510101	RST NETW SM ARV24 4X1 R PM5 R
3406	235003510101	RST NETW SM ARV24 4X1 R PM5 R
3407	235003510101	RST NETW SM ARV24 4X1 R PM5 R
3408	235003510101	RST NETW SM ARV24 4X1 R PM5 R
3409	235003510101	RST NETW SM ARV24 4X1 R PM5 R
3410	235003510101	RST NETW SM ARV24 4X1 R PM5 R
3411	235003510101	RST NETW SM ARV24 4X1 R PM5 R
3412	235003510101	RST NETW SM ARV24 4X1 R PM5 R
3413	235003510101	RST NETW SM ARV24 4X1 R PM5 R
3414	235003510101	RST NETW SM ARV24 4X1 R PM5 R
3416	319802131030	RST SM 0603 10K PM5 COL
3417	319802190030	RST SM 0603 JUMP. 0R05 COL
3418	319802134720	RST SM 0603 4K7 PM5 COL
3419	319802131030	RST SM 0603 10K PM5 COL
3420	319802131030	RST SM 0603 10K PM5 COL
3421	319802190030	RST SM 0603 JUMP. 0R05 COL
3422	319802190030	RST SM 0603 JUMP. 0R05 COL
3423	319802190030	RST SM 0603 JUMP. 0R05 COL
3424	319802131030	RST SM 0603 10K PM5 COL
3425	235003510101	RST NETW SM ARV24 4X1 R PM5 R
3426	232270462709	RST SM 0603 RC22H 27R PM1 R
3462	319802131030	RST SM 0603 10K PM5 COL
3463	319802133320	RST SM 0603 3K3 PM5 COL
3468	319802131010	RST SM 0603 1 R PM5 COL

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3469	319802131010	RST SM 0603 1 R PM5 COL
3491	319802131030	RST SM 0603 10K PM5 COL
3601	319802132220	RST SM 0603 2K2 PM5 COL
3602	319802131010	RST SM 0603 1 R PM5 COL
3603	319802131010	RST SM 0603 1 R PM5 COL
3604	319802131010	RST SM 0603 1 R PM5 COL
3605	319802131010	RST SM 0603 1 R PM5 COL
3606	319802137590	RST SM 0603 75R PM5 COL
3607	319802137590	RST SM 0603 75R PM5 COL
3608	319802137590	RST SM 0603 75R PM5 COL
3609	319802131030	RST SM 0603 10K PM5 COL
3610	319802131030	RST SM 0603 10K PM5 COL
3611	319802132220	RST SM 0603 2K2 PM5 COL
3613	319802190030	RST SM 0603 JUMP. 0R05 COL
3614	319802131030	RST SM 0603 10K PM5 COL
3615	319802131040	RST SM 0603 1 K PM5 COL
3616	319802190030	RST SM 0603 JUMP. 0R05 COL
3617	319802190030	RST SM 0603 JUMP. 0R05 COL
3618	319802190030	RST SM 0603 JUMP. 0R05 COL
3619	319802190030	RST SM 0603 JUMP. 0R05 COL
3631	232270260189	RST SM 0603 RC21 18R PM5 R
3632	232270260189	RST SM 0603 RC21 18R PM5 R
3633	232270260569	RST SM 0603 RC21 56R PM5 R
3634	232270260569	RST SM 0603 RC21 56R PM5 R
3635	232270260189	RST SM 0603 RC21 18R PM5 R
3636	232270260569	RST SM 0603 RC21 56R PM5 R
3641	319802133320	RST SM 0603 3K3 PM5 COL
3642	319802131010	RST SM 0603 1 R PM5 COL
3643	319802133320	RST SM 0603 3K3 PM5 COL
3644	319802131010	RST SM 0603 1 R PM5 COL
3645	235003510479	RST NETW SM ARV24 4X 47R PM5 R
3646	235003510479	RST NETW SM ARV24 4X 47R PM5 R
3647	235003510479	RST NETW SM ARV24 4X 47R PM5 R
3648	235003510479	RST NETW SM ARV24 4X 47R PM5 R
3649	235003510479	RST NETW SM ARV24 4X 47R PM5 R
3650	319802134790	RST SM 0603 47R PM5 COL
3651	319802131030	RST SM 0603 10K PM5 COL
3652	319802131030	RST SM 0603 10K PM5 COL
3702	235003510472	RST NETW SM ARV24 4X 4K7 PM5 R
3703	235003510472	RST NETW SM ARV24 4X 4K7 PM5 R
3704	319802131020	RST SM 0603 1K PM5 COL
3705	319802131020	RST SM 0603 1K PM5 COL
3707	319802131030	RST SM 0603 10K PM5 COL
3708	319802131510	RST SM 0603 150R PM5 COL
3709	319802133320	RST SM 0603 3K3 PM5 COL
3710	319802131030	RST SM 0603 10K PM5 COL
3711	319802131510	RST SM 0603 150R PM5 COL
3712	319802131030	RST SM 0603 10K PM5 COL
3713	319802131510	RST SM 0603 150R PM5 COL
3714	319802131030	RST SM 0603 10K PM5 COL
3715	319802131510	RST SM 0603 150R PM5 COL
3716	319802131010	RST SM 0603 1 R PM5 COL
3717	319802133320	RST SM 0603 3K3 PM5 COL
3718	319802131010	RST SM 0603 1 R PM5 COL
3719	319802131020	RST SM 0603 1K PM5 COL
3720	319802133320	RST SM 0603 3K3 PM5 COL
3721	319802131020	RST SM 0603 1K PM5 COL
3722	319802131010	RST SM 0603 1 R PM5 COL
3723	319802131010	RST SM 0603 1 R PM5 COL
3724	319802131010	RST SM 0603 1 R PM5 COL
3752	319802154730	RST SM 0805 47K PM5 COL R
3753	319802151040	RST SM 0805 1 K PM5 COL R
3754	319802131040	RST SM 0603 1 K PM5 COL
3755	319802131030	RST SM 0603 10K PM5 COL
3756	319802131040	RST SM 0603 1 K PM5 COL
3757	319802131030	RST SM 0603 10K PM5 COL
3758	319802131040	RST SM 0603 1 K PM5 COL
3759	319802131030	RST SM 0603 10K PM5 COL
3760	319802190030	RST SM 0603 JUMP. 0R05 COL
3762	319802131040	RST SM 0603 1 K PM5 COL
3763	319802131030	RST SM 0603 10K PM5 COL
3764	319802131040	RST SM 0603 1 K PM5 COL
3765	319802131030	RST SM 0603 10K PM5 COL

5201	823827707461	FERRITE BEAD(BLM11B1 SA)
5202	823827707461	FERRITE BEAD(BLM11B1 SA)
5203	823827707461	FERRITE BEAD(BLM11B1 SA)
5207	242254944197	IND FXD 0805 EMI 1 MHZ 220R R
5251	242254943409	IND FXD 1206 EMI 1 MHZ 50R R
5252	242254943409	IND FXD 1206 EMI 1 MHZ 50R R
5253	242254943409	IND FXD 1206 EMI 1 MHZ 50R R
5301	242254943409	IND FXD 1206 EMI 1 MHZ 50R R
5302	242254943409	IND FXD 1206 EMI 1 MHZ 50R R
5303	242254943409	IND FXD 1206 EMI 1 MHZ 50R R
5304	242254943409	IND FXD 1206 EMI 1 MHZ 50R R
5341	242254943409	IND FXD 1206 EMI 1 MHZ 50R R
5342	242254943409	IND FXD 1206 EMI 1 MHZ 50R R
5343	242254943409	IND FXD 1206 EMI 1 MHZ 50R R
5344	242254943409	IND FXD 1206 EMI 1 MHZ 50R R
5345	242254944195	IND FXD 0805 EMI 1 MHZ 220R R
5461	242254943409	IND FXD 1206 EMI 1 MHZ 50R R
5601	823827707461	FERRITE BEAD(BLM11B1 SA)
5602	823827707461	FERRITE BEAD(BLM11B1 SA)
5603	823827707461	FERRITE BEAD(BLM11B1 SA)
5604	242254944197	IND FXD 0805 EMI 1 MHZ 220R R
5631	242254943409	IND FXD 1206 EMI 1 MHZ 50R R
5632	242254943409	IND FXD 1206 EMI 1 MHZ 50R R
5633	242253596089	IND FXD SM 0805 10U PM10 R
5752	242254944197	IND FXD 0805 EMI 1 MHZ 220R R
5754	242253600428	IND FXD TSL0808 S 10U PM10 B
5755	242253600428	IND FXD TSL0808 S 10U PM10 B
5756	242253600428	IND FXD TSL0808 S 10U PM10 B
5757	242254943409	IND FXD 1206 EMI 1 MHZ 50R R
5758	242254943409	IND FXD 1206 EMI 1 MHZ 50R R

6201	319801010620	DIO SIG SM BAV99 (COL) R
6202	319801010620	DIO SIG SM BAV99 (COL) R
6203	319801010620	DIO SIG SM BAV99 (COL) R
6216	319801010620	DIO SIG SM BAV99 (COL) R
6217	319801010620	DIO SIG SM BAV99 (COL) R
6218	933913910115	DIO SIG SM BAS32L (PHSE) R
6219	933137390215	DIO REG SM BZX84-C5V1 (PHSE) R
6222	933742280215	DIO SIG SM BAT54 (PHSE) R
6223	933742280215	DIO SIG SM BAT54 (PHSE) R
6462	933913910115	DIO SIG SM BAS32L (PHSE) R
6601	319801010620	DIO SIG SM BAV99 (COL) R
6602	319801010620	DIO SIG SM BAV99 (COL) R
6603	319801010620	DIO SIG SM BAV99 (COL) R
6604	319801010620	DIO SIG SM BAV99 (COL) R
6608	933742280215	DIO SIG SM BAT54 (PHSE) R
6609	933742280215	DIO SIG SM BAT54 (PHSE) R
6610	319801010620	DIO SIG SM BAV99 (COL) R
6631	933913910115	DIO SIG SM BAS32L (PHSE) R
6632	933561950215	DIO REG SM BZX84-C3V3 (PHSE) R
6633	319801010620	DIO SIG SM BAV99 (COL) R
6634	319801010620	DIO SIG SM BAV99 (COL) R
6635	319801010620	DIO SIG SM BAV99 (COL) R
6701	319801010620	DIO SIG SM BAV99 (COL) R
6702	319801010620	DIO SIG SM BAV99 (COL) R
6703	933913910115	DIO SIG SM BAS32L (PHSE) R

7201	932214526668	IC SM M24C02-WMN6 (ST) R
7204	935245720118	IC SM 74HCT1G14GW (PHSE) R
7205	935245720118	IC SM 74HCT1G14GW (PHSE) R
7251	932218493668	IC SM LM2937IMP-3.3 (NSC0) R
7252	932218487685	IC SM LM3480IM3-3.3 (NSC0) R
7253	932218279671	IC SM AD9888KS-205 (ANA0) Y
7254	932218493668	IC SM LM2937IMP-3.3 (NSC0) R
7301	932218466671	IC SM THC63DV161 (THIN) Y
7302	932218493668	IC SM LM2937IMP-3.3 (NSC0) R
7303	932218487685	IC SM LM3480IM3-3.3 (NSC0) R
7304	935245720118	IC SM 74HCT1G14GW (PHSE) R
7305	935245720118	IC SM 74HCT1G14GW (PHSE) R
7341	932217104671	IC SM SII160CT1 (SIIM) Y
7342	932218487685	IC SM LM3480IM3-3.3 (NSC0) R
7343	932218493668	IC SM LM2937IMP-3.3 (NSC0) R
7401	823827711951	SCALER IC (PW171B-20U)
7461	932218665671	IC SM M29W8 DT-90N1 (ST) Y
7463	932212209682	IC M24C32-WBN6 (ST) L
7471	932218463682	IC SM TLC7733ID (TI) L
7601	932214526668	IC SM M24C02-WMN6 (ST) R
7602	935241100118	IC SM 74LVC126AD (PHSE) R
7603	932209265685	TRA SIG SM MUN2211J (ONSE) R
7604	935245720118	IC SM 74HCT1G14GW (PHSE) R
7605	935245720118	IC SM 74HCT1G14GW (PHSE) R
7631	935267395518	IC SM SAA7118E/V1 (PHSE) R
7632	932218493668	IC SM LM2937IMP-3.3 (NSC0) R
7633	932215686685	FET SIG SM 2N7 2L (ONSE) R
7634	932215686685	FET SIG SM 2N7 2L (ONSE) R
7701	935260901118	IC SM 74LVC541AD (PHSE) R
7702	933967310685	TRA SIG SM BC848C (ONSE) R
7703	933967310685	TRA SIG SM BC848C (ONSE) R
7704	933967310685	TRA SIG SM BC848C (ONSE) R
7705	933967310685	TRA SIG SM BC848C (ONSE) R
7706	932218367668	IC SM M62334FP (MITJ) R
7707	932215686685	FET SIG SM 2N7 2L (ONSE) R
7708	932215686685	FET SIG SM 2N7 2L (ONSE) R
7752	932218206685	IC SM IRU1206-25CY (INR0) R
7753	932202899668	FET POW SM SI4835DY (VISH) R
7754	932209265685	TRA SIG SM MUN2211J (ONSE) R
7755	932202899668	FET POW SM SI4835DY (VISH) R
7756	932209265685	TRA SIG SM MUN2211J (ONSE) R
7757	932202899668	FET POW SM SI4835DY (VISH) R
7758	932209265685	TRA SIG SM MUN2211J (ONSE) R
7759	932202899668	FET POW SM SI4835DY (VISH) R
7760	932209265685	TRA SIG SM MUN2211J (ONSE) R
7761	932202899668	FET POW SM SI4835DY (VISH) R
7762	932209265685	TRA SIG SM MUN2211J (ONSE) R
7763	932202899668	FET POW SM SI4835DY (VISH) R
7764	932209265685	TRA SIG SM MUN2211J (ONSE) R

Power Panel

1052	313815854151	POWER ASSY
2051	223891015649	CER2 0805 X7R 25V 1 N PM10 R
2055	223891015649	CER2 0805 X7R 25V 1 N PM10 R
2056	223891015649	CER2 0805 X7R 25V 1 N PM10 R
2061	202203100053	ELCAP GL 25V S 470U PM20 A
2062	222286115272	CER1 0805 NP0 50V 2N7 PM5 R
2063	223891119858	CER2 1206 Y5V 25V 470N P8020 R
2064	223891019854	CER2 0805 Y5V 25V 220N P8020 R
2065	223858015641	CER2 0805 X7R 50V 22N PM10 R
2066	223886115221	CER1 0805 NP0 50V 220P PM5 R
2067	202203100053	ELCAP GL 25V S 470U PM20 A
2068	202203100053	ELCAP GL 25V S 470U PM20 A
2069	223891019854	CER2 0805 Y5V 25V 220N P8020 R
2070	223886115102	CER1 0805 NP0 50V 1N PM5 R
2072	222286115272	CER1 0805 NP0 50V 2N7 PM5 R
2073	223891015649	CER2 0805 X7R 25V 1 N PM10 R
2074	223891015649	CER2 0805 X7R 25V 1 N PM10 R
2075	223858015641	CER2 0805 X7R 50V 22N PM10 R
2076	223886115221	CER1 0805 NP0 50V 220P PM5 R
2077	202203100053	ELCAP GL 25V S 470U PM20 A
2078	223891019854	CER2 0805 Y5V 25V 220N P8020 R
2079	222278019763	CER2 0805 Y5V 16V 1U PM20 R
2080	202203100053	ELCAP GL 25V S 470U PM20 A
2083	223891015649	CER2 0805 X7R 25V 1 N PM10 R
2084	223858015641	CER2 0805 X7R 50V 22N PM10 R
2085	222278019763	CER2 0805 Y5V 16V 1U PM20 R
2101	203831000015	CAP MPP 275V S 220N PM10 B
2102	203831000014	CAP MPP 275V S 680N PM10 B
2103	202055490139	CERSAF NSB 250V S 4N7 PM20 B
2104	202055490139	CERSAF NSB 250V S 4N7 PM20 B
2105	202203100059	ELCAP KM 450V S 150U PM20 B
2106	223886115152	CER1 0805 NP0 50V 1N5 PM5 R
2107	223891015649	CER2 0805 X7R 25V 1 N PM10 R

2108	223886115102	CER1 0805 NP0 50V 1N PM5 R
2109	223858015641	CER2 0805 X7R 50V 22N PM10 R
2110	223886115101	CER1 0805 NP0 50V 1 P PM5 R
2111	225260108026	CER2 DC X7R 1KV S 1N PM10 A
2112	202055490158	CERSAF CD 250V S 2N2 PM20 B
2113	203803513506	ELCAP RGA 50V S 22U PM20 A
2114	223886115152	CER1 0805 NP0 50V 1N5 PM5 R
2115	225260108026	CER2 DC X7R 1KV S 1N PM10 A
2116	202203100053	ELCAP GL 25V S 470U PM20 A
2117	202203100053	ELCAP GL 25V S 470U PM20 A
2118	202203100053	ELCAP GL 25V S 470U PM20 A
2119	223886115829	CER1 0805 NP0 50V 82P PM5 R
2120	223858015625	CER2 0805 X7R 50V 1N5 PM10 R
2121	203830200203	CAP MPOL 630V S 47N PM10 B
2122	223891019854	CER2 0805 Y5V 25V 220N P8020 R
2123	203830200203	CAP MPOL 630V S 47N PM10 B
2126	222258119818	CER2 1206 Y5V 50V 1U P8020 R

3052	319802151010	RST SM 0805 1 R PM5 COL R
3056	319802151010	RST SM 0805 1 R PM5 COL R
3061	319802151830	RST SM 0805 18K PM5 COL R
3062	232273469102	RST SM 0805 RC12H 9K1 PM1 R
3071	319802151830	RST SM 0805 18K PM5 COL R
3072	232273469102	RST SM 0805 RC12H 9K1 PM1 R
3073	232271161278	RST SM 1206 RC01 2R7 PM5 R
3074	232271161278	RST SM 1206 RC01 2R7 PM5 R
3080	319802153320	RST SM 0805 3K3 PM5 COL R
3084	232273461624	SMD 0805 162K PM1
3085	213810113104	RST CRB CFR-12 A 1 K PM5 A
3086	213811611004	RST MFLM MFR-5S A 1 K PM1 A
3089	319802190020	RST SM 0805 JUMP. 0R05 COL R
3091	319802190020	RST SM 0805 JUMP. 0R05 COL R
3101	212261200061	NTC DC SCK-164 S 16R PM15 B
3102	232271161274	RST SM 1206 RC01 270K PM5 R
3103	232271161274	RST SM 1206 RC01 270K PM5 R
3104	232271161105	RST SM 1206 RC01 1M PM5 R
3105	232271161105	RST SM 1206 RC01 1M PM5 R
3106	232273462703	RST SM 0805 RC12H 27K PM1 R
3107	319802151030	RST SM 0805 10K PM5 COL R
3108	319802151030	RST SM 0805 10K PM5 COL R
3109	319802151030	RST SM 0805 10K PM5 COL R
3110	232271161274	RST SM 1206 RC01 270K PM5 R
3112	213811612209	RST MFLM MFR-5S A 22R PM1 A
3113	213811611002	RST MFLM MFR-5S A 1K PM1 A
3114	213811612204	RST MFLM MFR-5S A 220K PM1 A
3115	212010590708	RST MOX 1W RSS A 0R33 PM5 A
3116	232273462702	RST SM 0805 RC12H 2K7 PM1 R
3117	232271191032	RST SM 1206 JUMP. MAX 0R05 R
3118	232273461503	RST SM 0805 RC12H 15K PM1 R
3120	212010592462	RST MOX 1W RSS S 56K PM5 B
3121	212010591496	RST MOX 1W RSS A 15R PM5 A
3122	319802151520	RST SM 0805 1K5 PM5 COL R
3123	232273461503	RST SM 0805 RC12H 15K PM1 R
3124	319802151020	RST SM 0805 1K PM5 COL R
3125	319802152240	RST SM 0805 220K PM5 COL R
3126	232273462402	RST SM 0805 RC12H 2K4 PM1 R
3127	213811612205	RST MFLM MFR-5S A 2M2 PM1 A
3128	232272461005	RST SM 1206 RC02H 1M PM1 R
3129	319802151090	RST SM 0805 10R PM5 COL R
3131	232272461005	RST SM 1206 RC02H 1M PM1 R
3132	232272461005	RST SM 1206 RC02H 1M PM1 R
3133	319802154740	RST SM 0805 470K PM5 COL R
3134	213811604108	RST MFLM MF-50S A 1R PM5 A
3135	319802151030	RST SM 0805 10K PM5 COL R
3140	232271191032	RST SM 1206 JUMP. MAX 0R05 R
3142	232271191032	RST SM 1206 JUMP. MAX 0R05 R
3143	319802190020	RST SM 0805 JUMP. 0R05 COL R
3191	319802190020	RST SM 0805 JUMP. 0R05 COL R
3192	232271191032	RST SM 1206 JUMP. MAX 0R05 R

5061	313816875392	CHOKE COIL 150UH PM10UH K9257
5071	313816875392	CHOKE COIL 150UH PM10UH K9257
5101	313818872091	FIL MAINS 12MH 1A5 902Y1R3
5103	313818875001	TFM SMT LAYER HJC-S1397 WIRE
5105	313816874511	FERRITE BEAD
5106	313816874511	FERRITE BEAD

6061	932217529682	DIO REC SB560-F5 (PAJI) B
6071	932216647682	DIO REC SB340-F5 (PAJI) B
6101	932213176671	BRIDGE GBU8J (GI) Y
6105	933952580685	DIO SIG SM BAV103 (TEG0) R
6106	933703700133	DIO REC BYV26E A (PHSE) A
6107	933952580685	DIO SIG SM BAV103 (TEG0) R
6108	933952580685	DIO SIG SM BAV103 (TEG0) R
6109	932214337687	DIO REC FCH20A15 (NIEC) L
6110	933117860133	DIO REG BZX79-C20 A (PHSE) A
6111	319801010070	DIO SIG BAV21 (COL) A
6112	933952580685	DIO SIG SM BAV103 (TEG0) R
6114	932216287683	DIO REC PG4 7 A (PAJI) R

7061	932217683682	IC L4973V5.1 (ST) L
7071	932216562682	IC L4978 (ST) L
7082	933508380215	TRA SIG SM BSR14 (PHSE) R
7083	932202899668	FET POW SM SI4835DY (VISH) R
7101	932213028682	IC L5991 (ST) L
7102	932216376687	FET POW STU9NC80ZI (ST) L
7102	932217477687	FET POW STU10NB80 (ST) L
7103	932218664668	FET POW SM STD2NC50 (ST) R
7104	932214014667	OPT CP TCET1103(G) (VISH) L
7105	933508380215	TRA SIG SM BSR14 (PHSE) R
7106	933771100686	IC TL431CLP S (MOTA) R
7107	933967380685	TRA SIG SM BC858C (ONSE) R

Audio+keypad Panel

2901	222278019867	CER2 0805 Y5V 16V 2U2 P8020 R
2902	223878615647	CER2 0603 X7R 16V 68N PM10 R
2903	223878615647	CER2 0603 X7R 16V 68N PM10 R
2904	223878615647	CER2 0603 X7R 16V 68N PM10 R
2905	223878615647	CER2 0603 X7R 16V 68N PM10 R
2906	203803527203	ELCAP KM 16V S 220U PM20 A
2907	203803527203	ELCAP KM 16V S 220U PM20 A
2909	222278019867	CER2 0805 Y5V 16V 2U2 P8020 R
2910	223878615647	CER2 0603 X7R 16V 68N PM10 R
2911	223878615647	CER2 0603 X7R 16V 68N PM10 R
2912	223886715101	CER1 0603 NP0 50V 1 P PM5 R
2913	202002191726	ELCAP SM RVS 16V 47U PM20 R
2914	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2915	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2916	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2917	223886715101	CER1 0603 NP0 50V 1 P PM5 R
2918	223886715101	CER1 0603 NP0 50V 1 P PM5 R
2919	223886715101	CER1 0603 NP0 50V 1 P PM5 R
2920	222224119876	CER2 1206 Y5V 10V 10U P8020 R
2921	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2922	223858615636	CER2 0603 X7R 50V 10N PM10 R
2923	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2924	223886715151	CER1 0603 NP0 50V 150P PM5 R
2926	223824619863	CER2 0603 Y5V 10V 1U P8020 R
2927	202001293725	ELCAP SM RV2 35V 4U7 PM20 R
2928	223878615649	CER2 0603 X7R 16V 1 N PM10 R
2929	223858615623	CER2 0603 X7R 50V 1N PM10 R
2930	223858615623	CER2 0603 X7R 50V 1N PM10 R
2931	222258015649	CER2 0805 X7R 50V 1 N PM10 R
2932	222258015649	CER2 0805 X7R 50V 1 N PM10 R
2933	202203100068	ELCAP GL 25V S 470U PM20 B
2934	222258015649	CER2 0805 X7R 50V 1 N PM10 R
2935	203803521209	ELCAP GS 16V S 220U PM20 A
2936	202002191726	ELCAP SM RVS 16V 47U PM20 R
2937	222258015649	CER2 0805 X7R 50V 1 N PM10 R
2938	202002191778	ELCAP SM RVJ 16V 1 U PM20 R
2940	202002191726	ELCAP SM RVS 16V 47U PM20 R
2941	222224119876	CER2 1206 Y5V 10V 10U P8020 R
2942	222258015649	CER2 0805 X7R 50V 1 N PM10 R
2943	222224119876	CER2 1206 Y5V 10V 10U P8020 R
2944	222258015649	CER2 0805 X7R 50V 1 N PM10 R

3901	232273061203	RST SM 0805 RC11 20K PM5 R
3902	232273061203	RST SM 0805 RC11 20K PM5 R
3903	232273061203	RST SM 0805 RC11 20K PM5 R
3904	232273061203	RST SM 0805 RC11 20K PM5 R
3905	319802136830	RST SM 0603 68K PM5 COL
3906	319802136830	RST SM 0603 68K PM5 COL
3907	319802136830	RST SM 0603 68K PM5 COL
3908	319802136830	RST SM 0603 68K PM5 COL
3909	319802131020	RST SM 0603 1K PM5 COL
3910	319802190030	RST SM 0603 JUMP. 0R05 COL
3912	319802151040	RST SM 0805 1 K PM5 COL R
3913	319802151040	RST SM 0805 1 K PM5 COL R
3914	319802131020	RST SM 0603 1K PM5 COL
3920	319802132210	RST SM 0603 220R PM5 COL
3921	319802131020	RST SM 0603 1K PM5 COL
3922	319802133930	RST SM 0603 39K PM5 COL
3923	319802131040	RST SM 0603 1 K PM5 COL
3924	319802131040	RST SM 0603 1 K PM5 COL
3925	319802131040	RST SM 0603 1 K PM5 COL
3930	319802133320	RST SM 0603 3K3 PM5 COL
3931	319802132210	RST SM 0603 220R PM5 COL
3932	319802131020	RST SM 0603 1K PM5 COL
3933	319802133920	RST SM 0603 3K9 PM5 COL
3934	232270461201	RST SM 0603 RC22H 120R PM1 R
3935	232270463301	RST SM 0603 RC22H 330R PM1 R

5901	242254944195	IND FXD 0805 EMI 1 MHZ 220R R
5902	242254944195	IND FXD 0805 EMI 1 MHZ 220R R
5903	313816877221	DRUM CHOKE 68UH/3A
5904	823827707451	FERRITE BEAD(BLM21P6 SG)

6901	933913910115	DIO SIG SM BAS32L (PHSE) R
6902	932218437682	LED VS L-3JYGW (KIEL) B
6903	932218424682	LED VS L-34GD (KIEL) B
6904	932218424682	LED VS L-34GD (KIEL) B
6905	932218423682	LED VS L-34ID (KIEL) B
6906	932214721685	DIO REC SM SFPJ-73 (SAKJ) R
6908	933742280215	DIO SIG SM BAT54 (PHSE) R
6910	319801010620	DIO SIG SM BAV99 (COL) R
6911	319801010620	DIO SIG SM BAV99 (COL) R

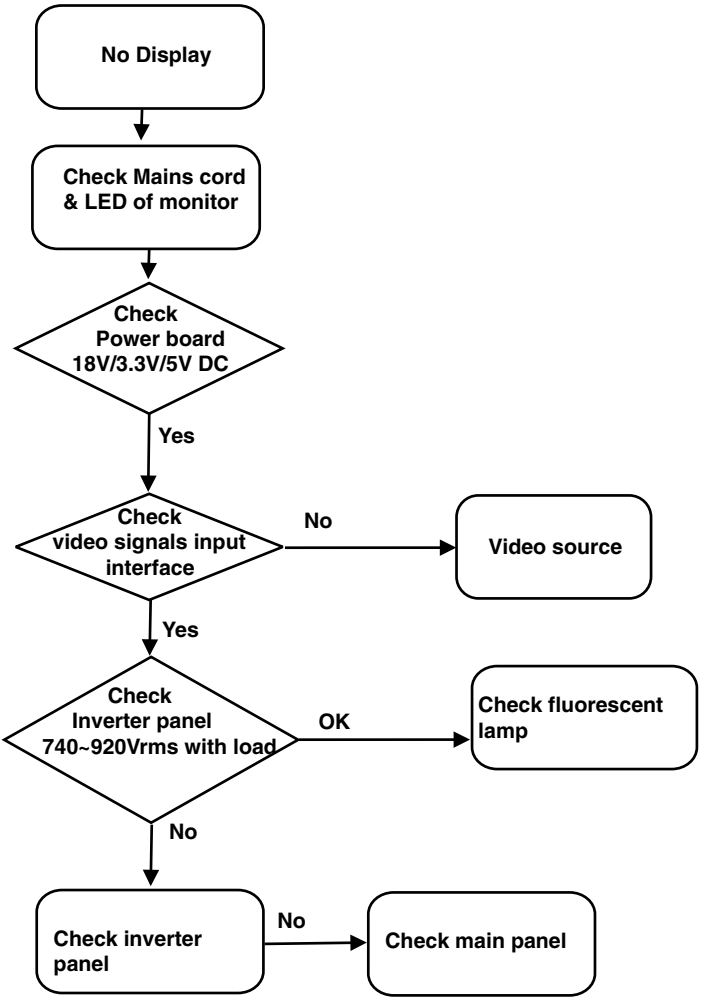
7901	932218485685	IC SM LM4839LQ (NSC0) R
7902	932218488685	IC SM LMV821M5 (NSC0) R
7903	933967310685	TRA SIG SM BC848C (ONSE) R
7904	932213086661	IC SM LM2596S-ADJ (NSC0) R
7905	932216622682	IC SM LM1085IS-ADJ (NSC0) L
7906	932218493668	IC SM LM2937IMP-3.3 (NSC0) R

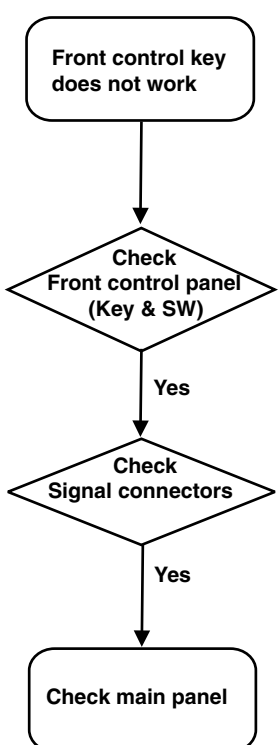
Difference Parts List

Difference list of 200P3G/00C &200P3M/00C

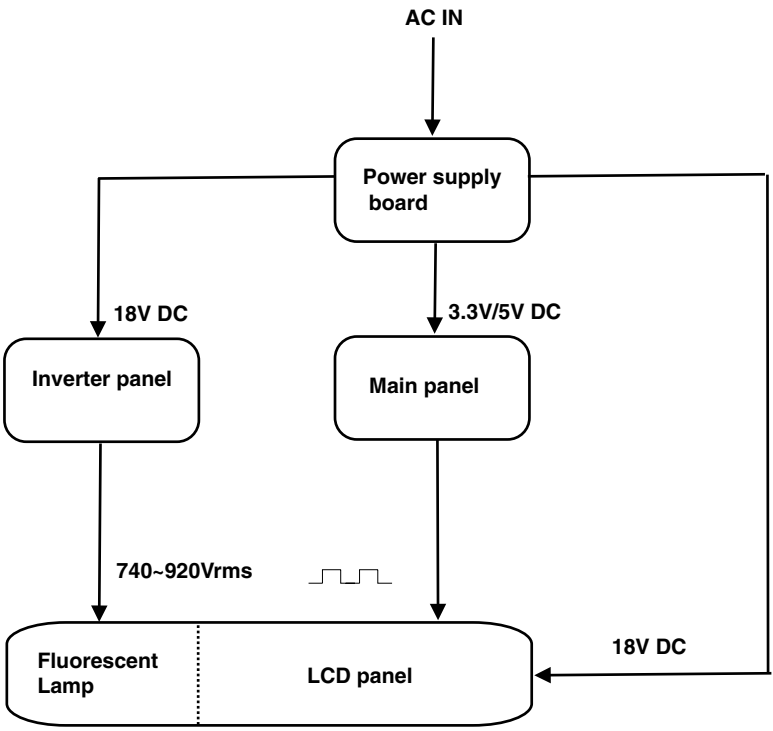
Model / Part(Item) / 12NC	200P3G/00C 8639 000 12395	200P3M/00C 8639 000 12393
1-FRONT CABINET ASSY	3138 157 52671	_
31-FRONT CABINET	3138 154 05932	_
1- BEZEL ASSY	_	3138 157 53631
31-BEZEL	_	318 154 07671
2-BACK COVER ASSY	3138 157 52681	3138 157 53641
41-BACK COVER	3138 154 06001	3138 154 07611
3-BASE ASSY	3138 157 52711	3138 157 53651
51-BASE	3138 154 06021	3138 154 07621
52-BASE COVER-FRONT	3138 154 06031	3138 154 07631
53-BASE COVER-BACK	3138 154 06041	3138 154 07641
54-HINGE COVER-TOP	3138 154 06051	3138 154 07651
55-HINGE COVER-BUTTON	3138 154 06061	3138 154 07661
1073-MAINS CORD	3138 128 74931	3138 168 74231
1077-CORD SUB-D	3138 188 72261(BLK)	3138 188 72051
1078- DVI CABLE	3138 188 72251(BLK)	3138 188 72241
1079-AV CABLE	3138 188 74531(BLK)	3138 188 74521
1080-S-VIDEO CABLE	3138 188 74551(BLK)	3138 188 74541
1081-SPEAKER CABLE	3138 188 75051(BLK)	3138 188 75031(GRAY)
1082-MIC.CABLE	3138 188 75061(BLK)	3138 188 75041(GRAY)

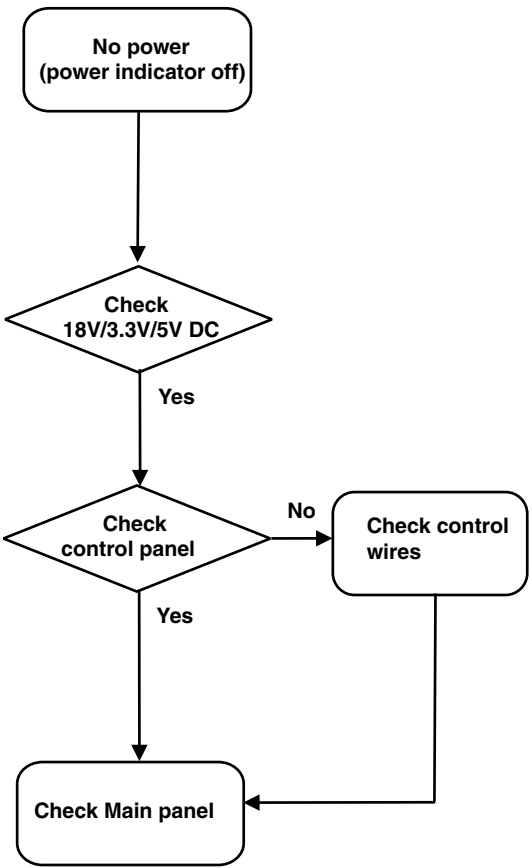
Repair Flow Chart



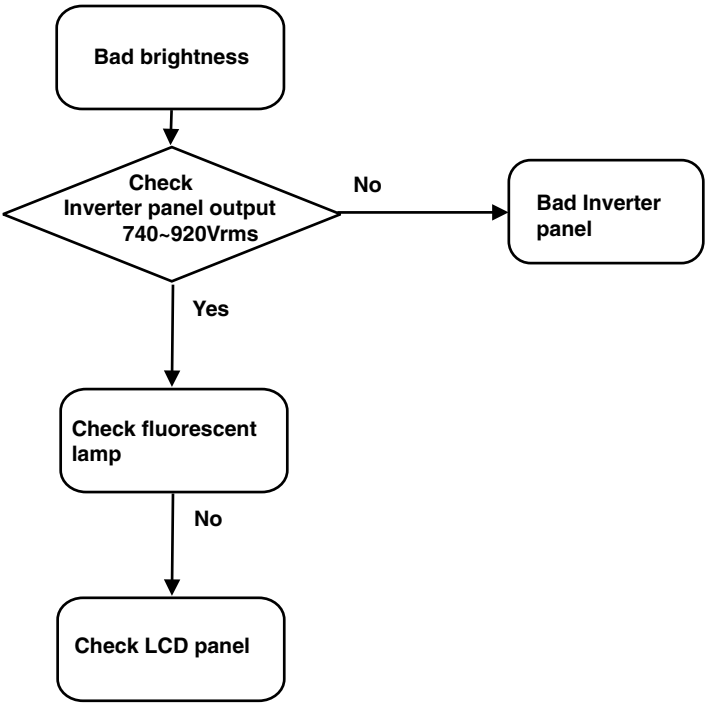


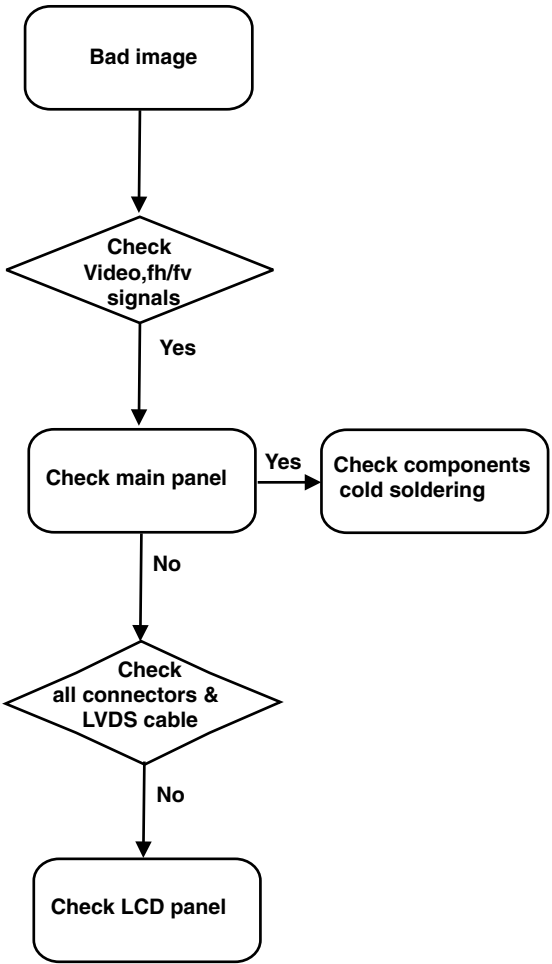
Repair Flow Chart





Repair Flow Chart





Repair Tips

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0. Warning

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically. When repairing, make sure that you are connected with the same potential as the mass of the unit via a wrist wrap with resistance. Keep components and tools also at the same potential !

1. Servicing of SMDs (Surface Mounted Devices)

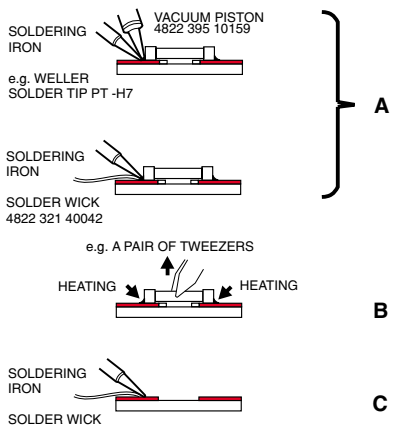
1.1 General cautions on handling and storage

- Oxidation on the terminals of SMDs results in poor soldering. Do not handle SMDs with bare hands.
- Avoid using storage places that are sensitive to oxidation such as places with sulphur or chlorine gas, direct sunlight, high temperatures or a high degree of humidity. The capacitance or resistance value of the SMDs may be affected by this.
- Rough handling of circuit boards containing SMDs may cause damage to the components as well as the circuit boards. Circuit boards containing SMDs should never be bent or flexed. Different circuit board materials expand and contract at different rates when heated or cooled and the components and/or solder connections may be damaged due to the stress. Never rub or scrape chip components as this may cause the value of the component to change. Similarly, do not slide the circuit board across any surface.

1.2 Removal of SMDs

- Heat the solder (for 2-3 seconds) at each terminal of the chip. By means of litz wire and a slight horizontal force, small components can be removed with the soldering iron. They can also be removed with a solder sucker (see Fig. 1A)

Fig. 1 DISMOUNTING



- While holding the SMD with a pair of tweezers, take it off gently using the soldering iron's heat applied to each terminal (see Fig. 1 B).
- Remove the excess solder on the solder lands by means of litz wire or a solder sucker (see Fig. 1C).

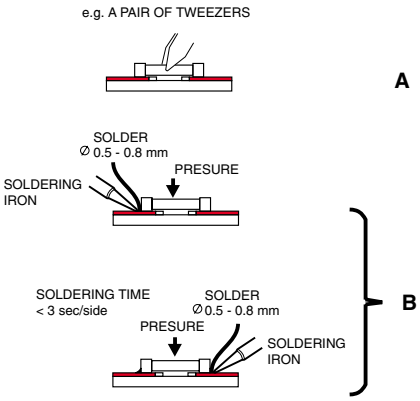
1.3 Caution on removal

- When handling the soldering.iron. use suitable pressure and be careful.
- When removing the chip, do not use undue force with the pair of tweezers.
- The soldering iron to be used (approx. 30 W) should preferably be equipped with a thermal control (soldering temperature: 225 to 250 °C).
- The chip, once removed, must never be reused.

1.4 Attachment of SMDs

- Locate the SMD on the solder lands by means of tweezers and solder the component on one side. Ensure that the component is positioned correctly on the solder lands (see Fig.2A).
- Next complete the soldering of the terminals of the component (see Fiq. 2B).

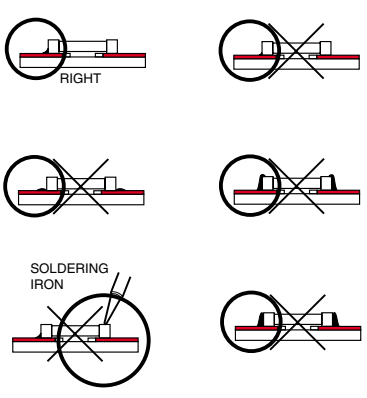
Fig. 2 MOUNTING



2. Caution when attaching SMDs

- When soldering the SMD terminals, do not touch them directly with the soldering iron. The soldering should be done as quickly as possible, care must be taken to avoid damage to the terminals of the SMDs themselves.
- Keep the SMD's body in contact with the printed board when soldering.
- The soldering iron to be used (approx. 30 W) should preferably be equipped with a thermal control (soldering temperature: 225 to 250 °C).
- Soldering should not be done outside the solder land.
- Soldering flux (of rosin) may be used, but should not be acidic.
- After soldering, let the SMD cool down gradually at room temperature.
- The quantity of solder must be proportional to the size of the solder land. If the quantity is too great, the SMD might crack or the solder lands might be torn loose from the printed board (see Fig. 3).

Fig. 3 Examples



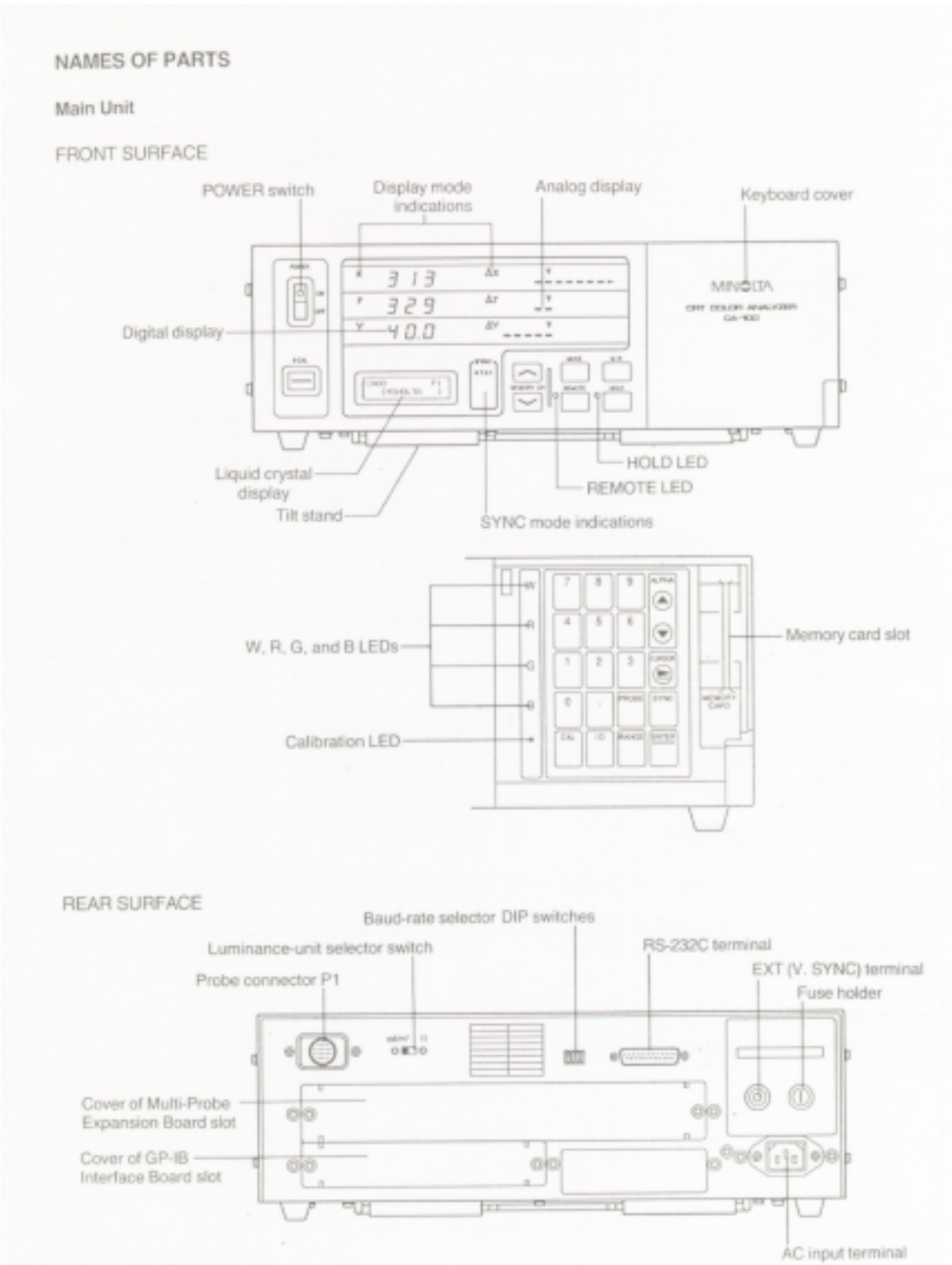
LCD COLOUR ANALYZER - CA110

1. SUMMARY

The LCD Colour Analyzer CA-110 was designed to upgrade the white-balanceprocess on production lines for colour LCD televisions and computer colour LCD panels in the colour LCD industry. The CA-110 consists of a main unit and a measuring probe.
The measuring probe utilizes an optical system suitable for measurement of colour LCDs and is equipped with a viewfinder to verify the area to be measured.

2. APPLICATIONS

* White-balance adjustment and inspection on LCD production lines.
* Quality control and shipping inspection by LCD manufacturers.
* Inspection of LCDs upon receipt by computer manufacturers.



CA110 Application (Continued)

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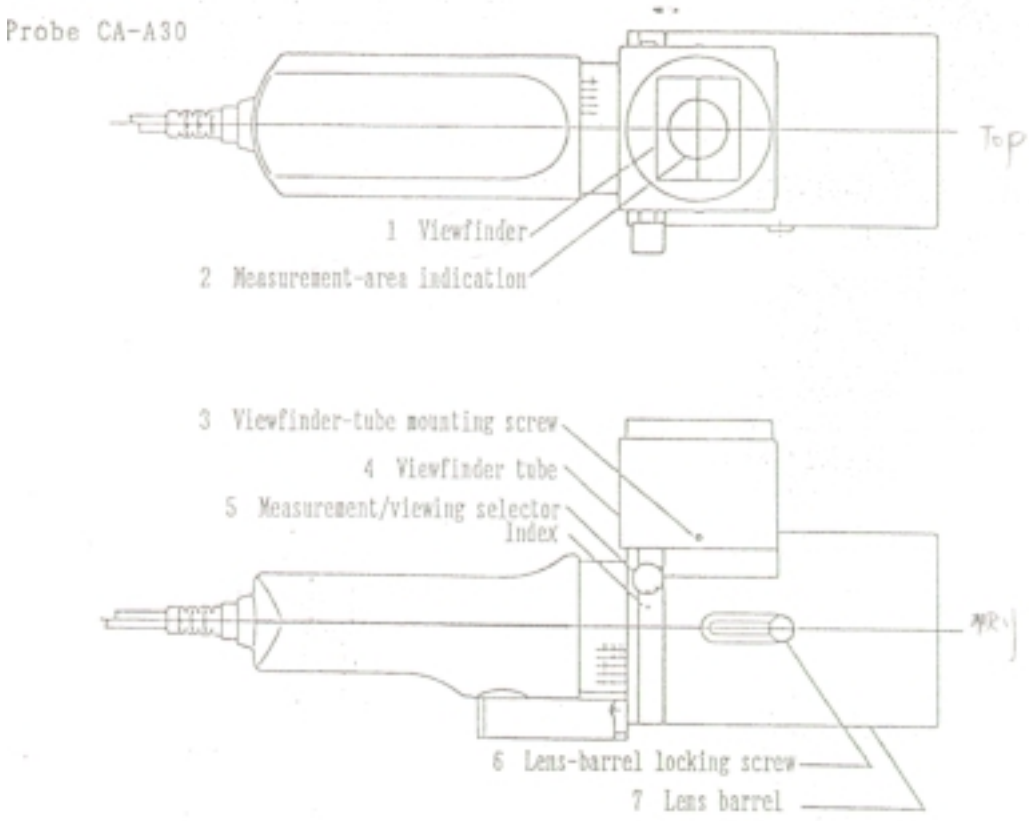


1.	Viewfinder	Shows image seen by measuring probe.
2.	Measurement-area indication	Indicates area to be measured.
3.	Viewfinder-tube mounting screw	Removing these two screws (one on each side) allows the viewfinder tube to be removed to clean viewfinder, etc.
4.	Viewfinder tube	Can be moved to minimize the effects of surrounding light and provide the best view of the viewfinder image.
5.	Measurement/viewing selector	Moves internal mirror; set to ○ for measurement and to ● for viewing or for zero calibration.
6.	Lens-barrel locking screw	Locks lens barrel at a fixed position.
7.	Lens barrel	Can be moved back and forth to set measurement angle.
8.	Tripod socket	Can be used to mount measurement probe on a tripod. Depth: 6mm.
9.	ISO socket	Can be used to mount measurement probe. ISO ø5mm, depth: 6mm
10.	Plug	Used to connect measuring probe to main unit or optional Multi-Probe Expansion Board.

CA110 Application (Continued)

ZERO CALIBRATION

Zero calibration is performed to determine the output of the measuring probe when no light reaches the sensor and to set this as the zero point to which all other measurements are referenced. Zero calibration must be performed after the POWER switch has been set ON brfore taking any measurements.

To perform zero calibration :

* Before performing zero calibration, check that the measuring probe has been connected to probe connector P1.

1. Check that the POWER switch is set to ON.

2. Set the measuring/viewing selector to the (viewing) position. (An image can be seen in the viewfinder, but no light will reach the sensor.)

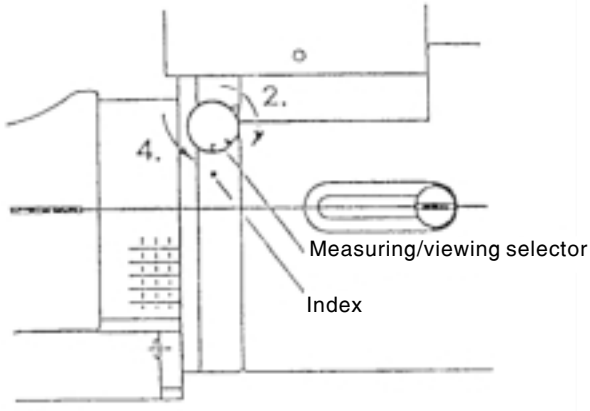
3. Press 0-CAL.

   * If zero calibration is being performed immediately after the POWER switch has been set to ON, press 0-CAL after "PUSH 0-CAL KEY" appears in the liquid crystal display.

4. Set the measuring/viewing selector to the position. Measurements will be started immediately.

DARKEN PROBE	Display after POWER switch is set to ON
↓	Approximately 5 seconds
DARKEN PROBE PUSH 0-CAL KEY	
↓	
ZERO CALIBRATION	Press 0-CAL, Performing zero calibration
↓	
CH00 P1 E1 [ ]	Zero calibration completed

"E1" will appear in the liquid crystal display the first time the CA-110 is used after shipment because no standard color has been set.



- "E1" will appear in the liquid crystal display the first time the CA-110 is used after shipment because no standard color has been set.
- Zero calibration can be performed at any time, even if "PUSH 0-CAL KEY" is not shown in the liquid crystal display.

Note:

- If the luminance of the LCD to be measured is 5.00cd/m² (1.46 fL) or less, wait at least five minutes after setting POWER switch to ON before performing zero calibration. Also, when measuring LCDs of low luminance, zero calibration should be performed approximately once an hour to ensure accuracy.
- If the ambient temperature changes after zero calibration has been performed, perform zero calibration again.
- Do not press any key while zero calibration is being performed. If a key is pressed, the time required for zero calibration will become longer.

To check if zero calibration was performed correctly, place the receptor area of the probe face down on a flat surface so that no light reaches the receptor area.

If the display shown at right appears in the liquid crystal display, perform zero calibration again.

OFFSET ERROR PUSH 0-CAL KEY

- Even when "OFFSET ERROR" appears in the liquid crystal display, if light reaches the receptor area of the measuring probe, measured values will appear in the digital and analog displays. However, these values will not be accurate.

If any other display is shown, zero calibration was performed correctly.

CA110 Application (Continued)

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SETTING MEASUREMENT AREA

Measurement areas of Ø25mm and Ø50mm can be selected by extending or retracting the lens barrel. The Ø25mm measurement area can be used for measuring LCDs with 2 - inch or greater diagonals: the Ø50mm measurement area can be used for measuring LCDs with 4 - inch or greater diagonals.

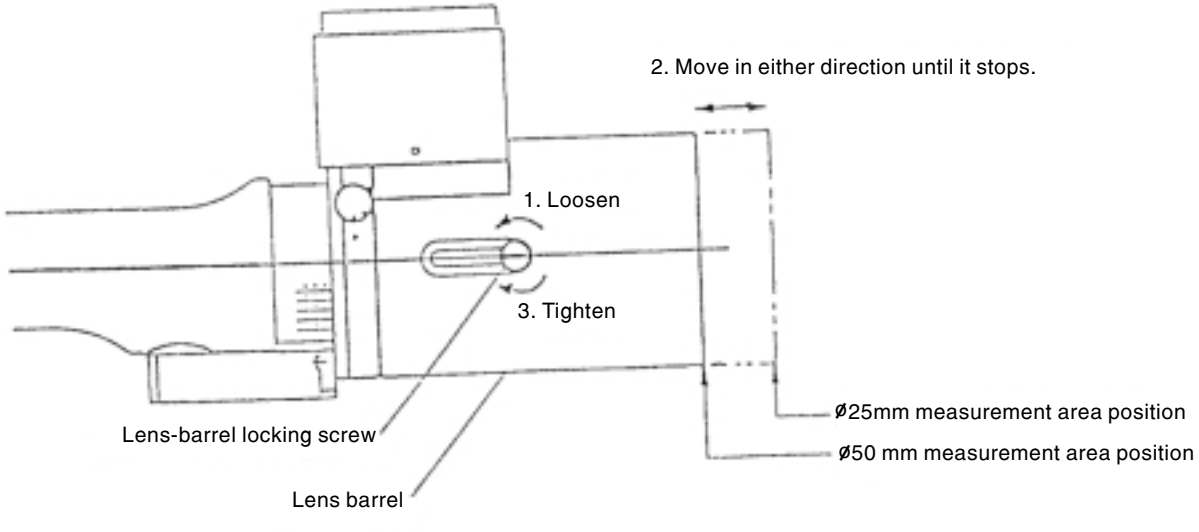
Set the measurement area :

Using a slotted screwdriver, loosen the lens - barrel locking screw.

Slide the lens barrel to the position corresponding to the desired measurement area. The lens barrel should be slid in the desired direction until it stops.
Extending the lens barrel fully sets the Ø25mm measurement area: retracting the lens barrel fully sets the Ø50mm measurement area.

Use the screwdriver to tighten the lens - barrel locking screw and lock the lens barrel in position.

Changing the measurement area also changes the measurement angle. this may result in differences between values measured with the Ø25mm measurement area and those measured with the Ø50mm measurement area to the viewing - angle characteristics of the LCD. For this reason. it is recommended that the measement area be constant for all measements.



CA110 Application (Continued)

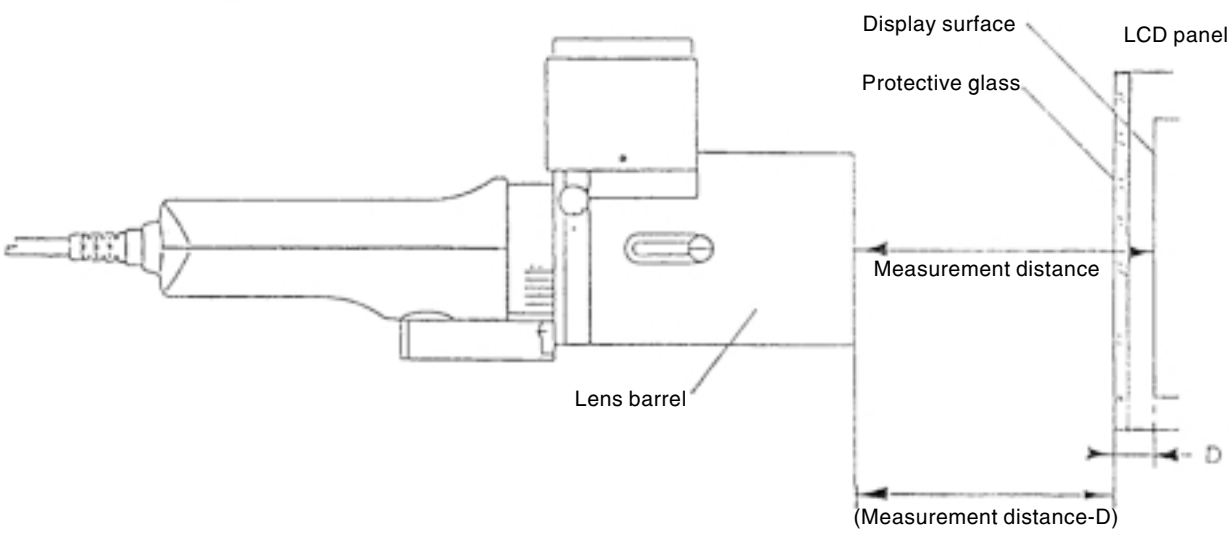
SETTING MEASUREMENT DISTANCE

The measurement distance (the distance from the front of the measuring probe's lens barrel to the display surface of the LCD) should be set using a ruler according to the procedure below.

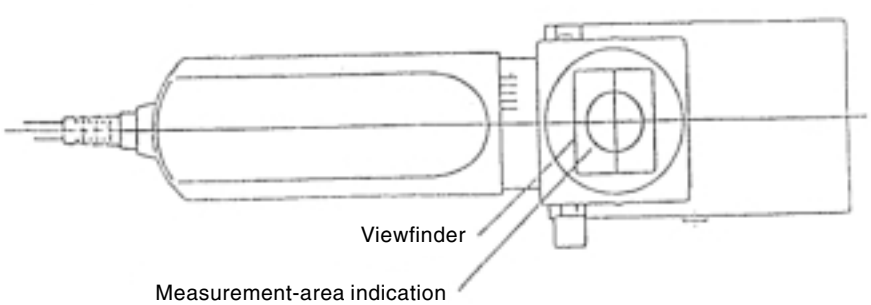
1. Mount the measuring probe on a tripod or other stand and mount the LCD on a suitable stand.
2. While using a ruler to measure the distance from the front of the measuring probe's lens barrel to the LCD's display surface, move the measuring probe or the LCD until the distance is the correct distance for the measurement area in use.

measurement area	ø 25mm	ø 50mm
measurement distance*	135mm+/-5mm	210mm+/-10mm

* Distance from the tip of the measuring probe's lens barrel to the LCD's display surface.



3. While looking through the viewfinder, move the measuring probe or LCD until the LCD section to be measured is inside the measurement-area indication in the viewfinder.



CA110 Application (Continued)

Go to cover page

After installation of Chroma 2250, CA110 and LCD monitor.

LCD monitor & Chroma 2250 :

- Turn on LCD monitor.
- Turn on Chroma 2250 as shown in Fig. 3.
- Provide CROSS-Hatch pattern at timing H=63.981KHz/1280 pixels
  V=60.020Hz/1024 lines
  by Chroma 2250 (as shown in Fig.3 & Fig. 4.).

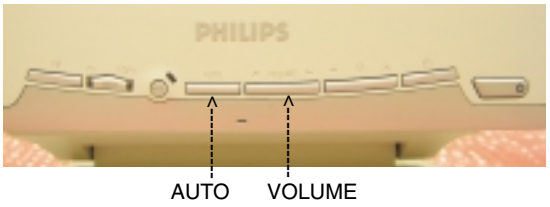
LCD Colour Analyzer CA-110 :

- Put on the cover (black) of Probe CA-A30 as shown in Fig.5.
- Set "Measurement/viewing selector" to ● for zero calibration of CA-110.
- Turn on CA-110 as shown in Fig. 6.
- Press "0-CAL" button as shown in Fig. 7.

Step A: Access Factory Mode

Access Factory Mode

Fig. 1



Factory Mode:

How to Get into Factory Mode Menu

Turn on LCD monitor.

Push AUTO " " & Left-VOLUME" " buttons simultaneously 3 seconds around.

Bring up Factory mode indication as shown in Fig 2.

Check Firmware version : example as below.

CODE VERSION. 2.02 2002-08-07
CONFIG VERSION. 2.02 2002-08-07
OSD VERSION. 2.02 2002-08-07

Factory Mode indication==========>

Fig. 2

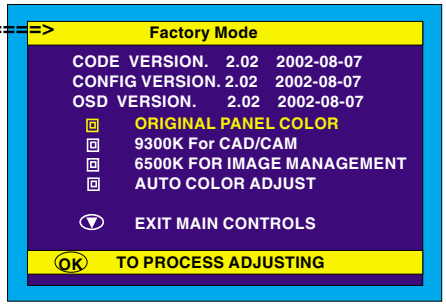


Fig. 3

Fig.4

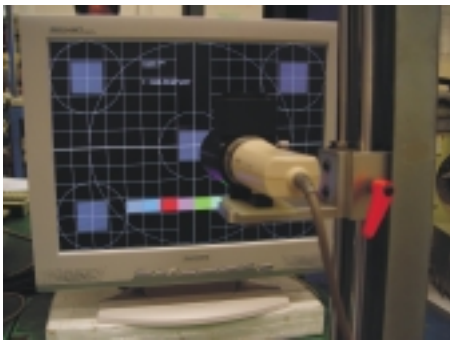


Fig. 5

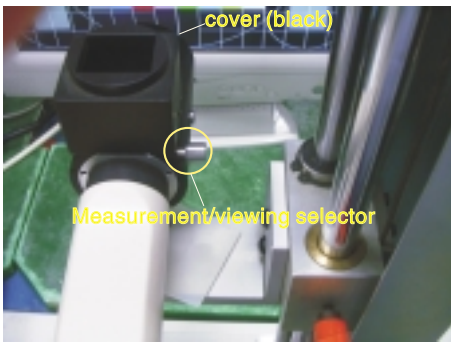


Fig. 6

(TURN ON)

Fig. 7

(Press 0-CAL)

CA110 Application (Continued)

Step B: Brightness & Contrast setting (pre-setting)

Brightness : at 100%
Contrast : at 50%

Fig. 8

Probe CA-A30 :

- Remove the cover (black) of CA-A30 as shown in Fig.9.
- Move the "Lens barrel" back and forth to get the optimal image as shown in Fig. 10 & Fig. 11.
- Then, turn the "Measurement/viewing selector" counterclockwise as shown in Fig. 9.
- At this moment the indicator on CA-110 as shown in Fig. 12. (example only)

Fig. 9

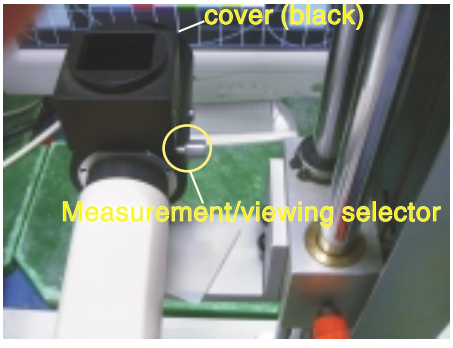
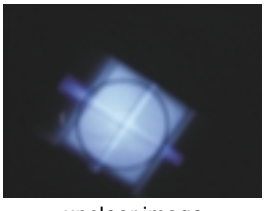
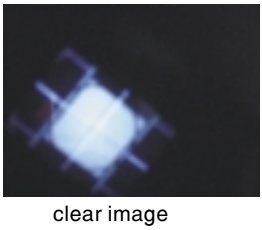


Fig. 10



unclear image

Fig. 11



clear image

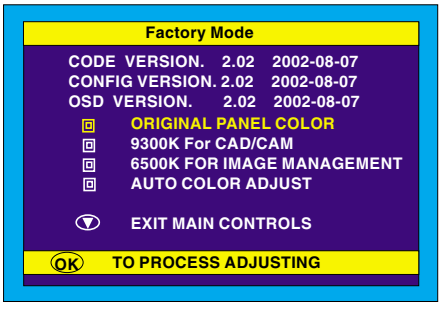


Fig. 12

Step C: Colour Temperature : Original Panel & 9300K & 6500K

White pattern & OSD position :

- Provide the "Full White" pattern by Chroma 2250 as shown in Fig. 13.

Fig. 13

OSD position : Move to optimal position as shown in Fig. 14.

Fig. 14

CA110 Application (Continued)

9300K : As shown in Fig. 15 & 16.
- select 9300K For CAD/CAM
  Press OK button, bring up Fig. 15.
- select RED or GREEN or BLUE
- decrease or increase the value of 9300K R G B.
- confirm/save the value change.
- Adjust the colour temperature of 9300K of R,G,B to x,y value as below.
  R (as shown in Fig. 15), (for example, production value of R is 97)
  G (as shown in Fig. 15), (for example, production value of G is 115)
  B (as shown in Fig. 15), (for example, production value of B is 128)

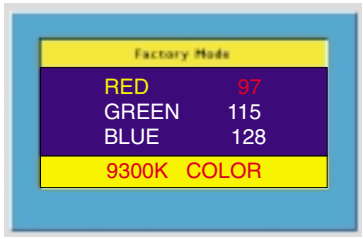


Fig. 15

x (center) = 0.281+/- 0.015
y (center) = 0.311 +/- 0.015

Fig. 16

Luminance (Y) : above 200 Nit in the center of the screen.
(experience: the value of "Y" too low, increase the value of "y" firstly.)

(experience: the value of "y" too high, decrease the value of "G".
the value of "x" too low, decrease the value of "R".)

6500K : As shown in Fig. 17 & 18.
- select 6500K FOR IMAGE MANAGEMENT
  Press OK button, bring up Fig. 17.
- select RED or GREEN or BLUE
- decrease or increase the value of 6500K R G B.
- confirm/save the value change.
- Adjust the colour temperature of 6500K of R,G,B to x,y value as below.
  R (as shown in Fig. 17), (for example, production value of R is 123)
  G (as shown in Fig. 17), (for example, production value of G is 128)
  B (as shown in Fig. 17), (for example, production value of B is 123)

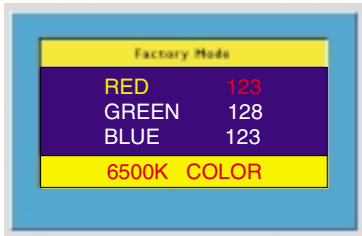


Fig. 17

x (center) = 0.312+/- 0.015
y (center) = 0.338 +/- 0.015

Fig. 18

Luminance (Y) : above 200 Nit in the center of the screen.
(experience: the value of "Y" too low, increase the value of "y" firstly.)

(experience: the value of "y" too high, decrease the value of "G".
the value of "x" too low, decrease the value of "R".)

Panel color==>

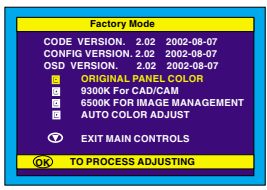


Fig. 19

ORIGINAL PANEL COLOR :
Adjust Brightness to 100% at this moment.
Adjust Contrast to 100% at this moment.

- Select "ORIGINAL PANEL COLOR" by OSD as shown in Fig. 19.
- Measure Luminance (Y) as shown in Fig. 21.

Fig. 20

If the Luminance (Y) is below 200 Nit in the center of the screen,
then adjust R,G,B Gain till the Luminance (Y) over 200Nit.

Luminance (Y) :
Above 200 NIT in the center of the screen as shown in Fig. 21.

Fig. 21

CA110 Application (Continued)

After above mentioned adjustment, check the 32 Gray Scale pattern, all the black and white scale should be visible on the screen as shown in Fig. 22.

Fig. 22

Full white, Geometry, 32 Gray scale & Pixel on/off pattern check

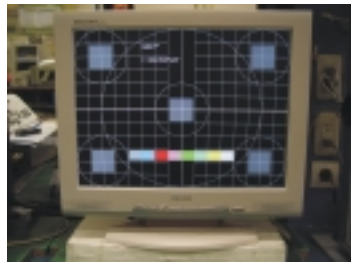
Brightness : at 100% **Contrast : at 50%**

Full White pattern check by eye :
- Provides the full white pattern by Chroma 2250.
- Check the image of each timing (total: 19 timings) to see if there is any colour's difference on the screen.
  For instance :
  at timing 64K/60Hz 1280x1024 --> as shown in Fig. 23.

Fig. 23

Geometry check and setting by eye :
- Provides the cross-hatch pattern by Chroma 2250.
- Check the geometry of each timing (total: 19 timings) to adjust the geometry of image to optimal position.
  For instance :
  at timing 64K/60Hz 1280x1024 --> as shown in Fig. 24.

Fig. 24



32 Gray Scale pattern check by eye :
- Provides the 32 gray scale pattern by Chroma 2250.
- Check the image of each timing (total: 19 timings) to see if all the black and white scale are visible on the screen or not.
  For instance :
  at timing 64K/60Hz 1280x1024 --> as shown in Fig. 25.

Fig. 25

Pixel on/off pattern check by eye :
- Provides the cross talk pattern by Chroma 2250.
- Check the image of each timing (total: 19 timings) to see if there is any Clock or/and Phase phenomenon on the screen.
  For instance :
  at timing 64K/60Hz 1280x1024 --> as shown in Fig. 26.

Fig. 26

Firmware upgrade for CPU

Go to cover page

Configuration and procedure

There is an application software to upgrade the firmware of CPU.
Bootcode of CPU should be embeded into CPU in production line before you use those application (.exe) file.
Flashupgrader.exe => for Win95, 98 & ME
FlashupgraderNT.exe => for Win2000, NT & XP

System and equipment requirements

1. An i486 (or above) personal computer or compatible.
2. Microsoft operation system Windows 95/98/ME/2000/NT/XP
3. CPUSoftware => **Flashupgrader.exe or FlashupgraderNT.exe**
4. PCB-200P3 with cable (3138 106 10228) as shown in Fig. 1

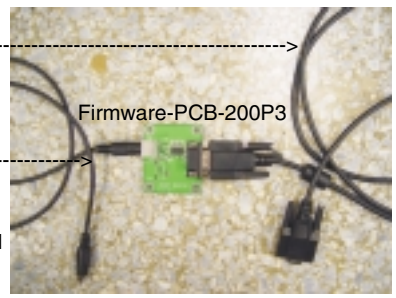


Fig. 1

Fig. 1 => Firmware-PCB-200P3 : 12nc is "3138 106 10228".

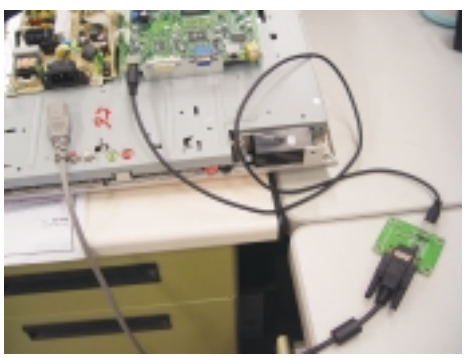


Fig. 2

Fig. 2 => Connection for Firmware upload.
**** Do not connect Mains cord to Monitor at this moment. ****

OPTIONAL TOOL

Fig. 3

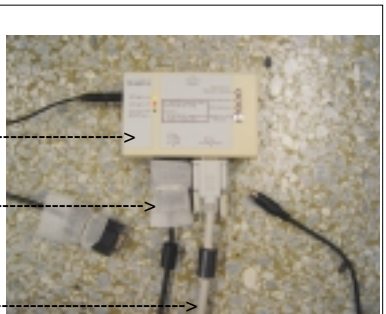


Fig. 3 => Firmware-cable-200P3 : 12nc is "3138 106 10229".

Fig. 4

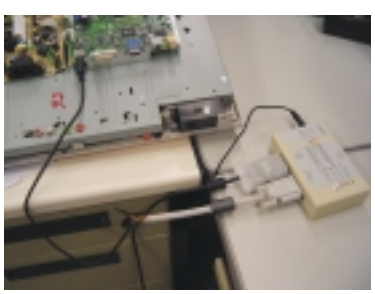
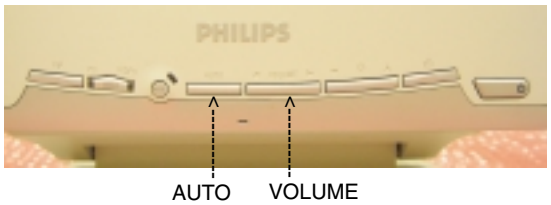


Fig. 4 => Connection for Firmware upload.
**** Do not connect Mains cord to Monitor at this moment. ****

Access Factory Mode

Fig. 5



Factory Mode:
How to Get into Factory Mode Menu

Turn on LCD monitor.

Push AUTO " " & Left-VOLUME" " buttons simultaneously 3 seconds around.
Bring up Factory mode indication as shown in Fig 6.

Check Firmware version : example as below.
CODE VERSION. 0.19 2002-05-10
CONFIG VERSION. 0.20B 2002-05-10
OSD VERSION. 0.20 2002-05-13

Factory Mode indication==========>

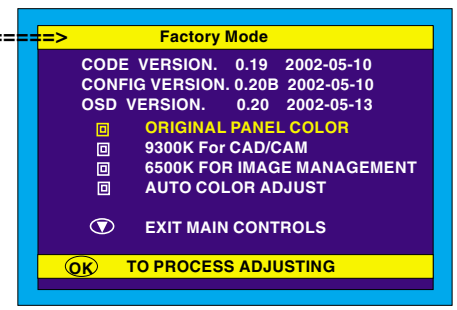
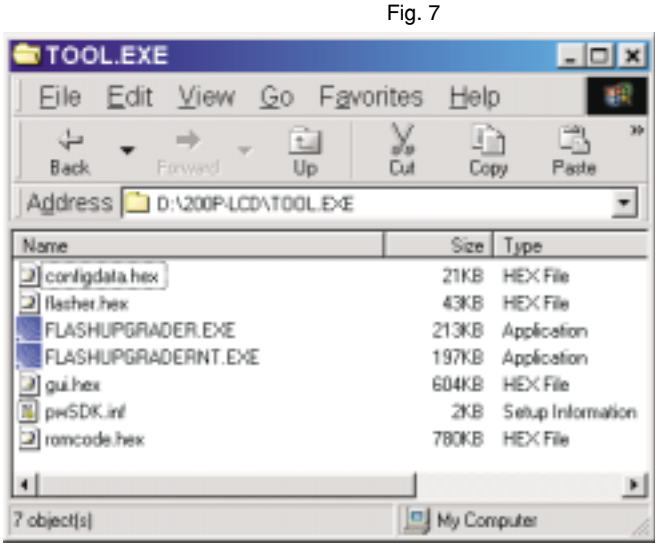


Fig. 6

The updated firmware of CPU => as shown in Fig. 7

1. configdata.hex
2. flasher.hex
3. gui.hex
4. romcode.hex

Fig. 7



Execution files => as shown in Fig. 7

Flashupgrader.exe => for Win95, 98 & ME
FlashupgraderNT.exe => for Win2000, NT & XP

Firmware upgrade for CPU (Continued)

Connection 1 : for application software

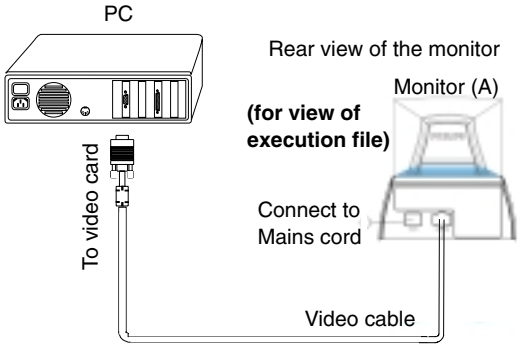


Fig. 8

Step 1 : Double click "**Flashupgrader.exe (for Win95, 98 & ME)**" as shown in Fig.96.

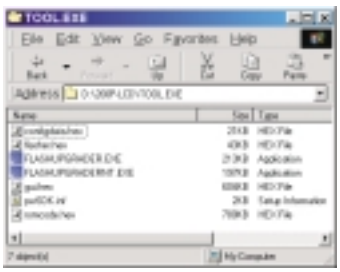


Fig. 9

Bring up :

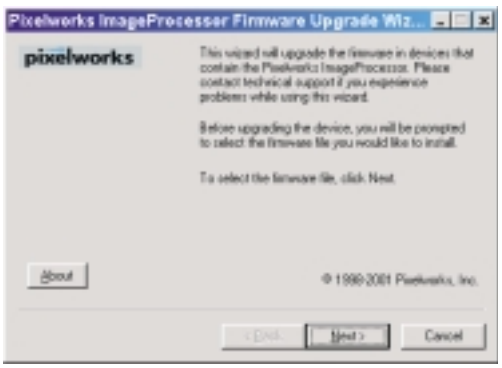


Fig. 10

Click "Next"

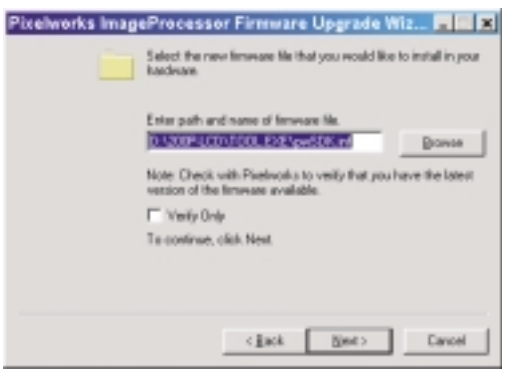


Fig. 11

Click "Next"

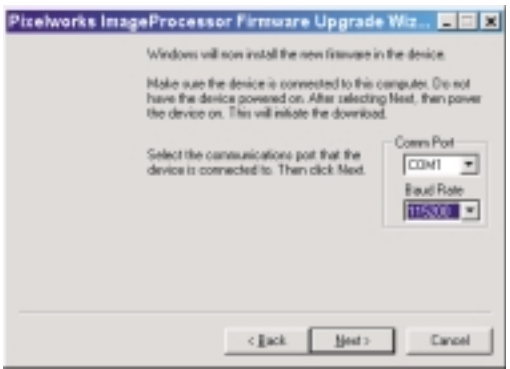


Fig. 12

Click "Next"

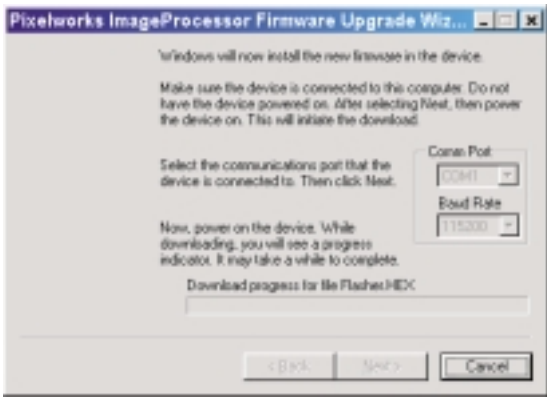

Pixelworks ImageProcessor Firmware Upgrade Wiz...
Windows will now install the new firmware in the device.
Comm Port
Baud Rate
Cancel

Fig. 13

Connection 2 : for Firmware upgrade

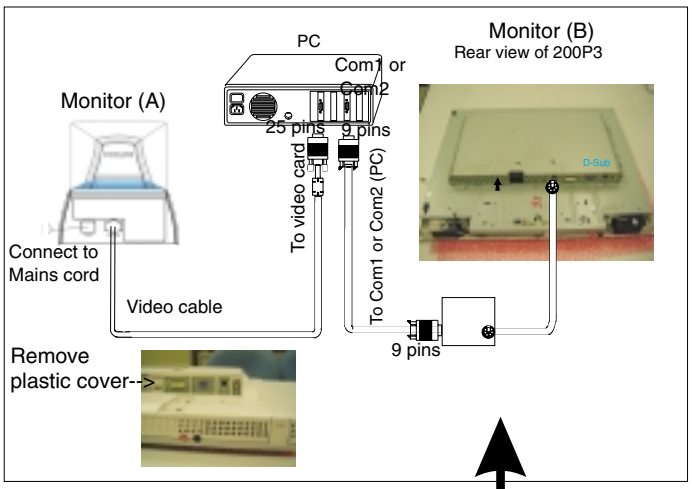


Fig. 14

****

You have to wait till the Fig. 13 on Windows screen, then connect Mains cord to monitor.

Step 2 : Connect Mains cord to AC inlet of monitor and AC power source (outlet) to upload the updated Firmware of CPU at this moment.

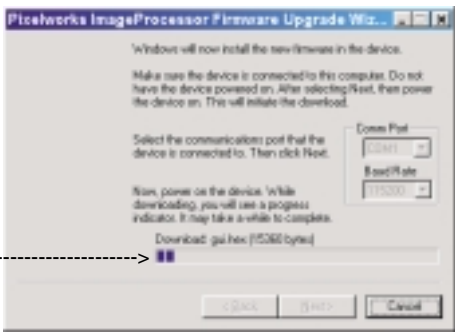

Pixelworks ImageProcessor Firmware Upgrade Wiz...
Windows will now install the new firmware in the device.
Comm Port
Baud Rate
Cancel

Fig. 15

Execute indicator ----------> (will take 3 minutes around.)

Successful ---------->

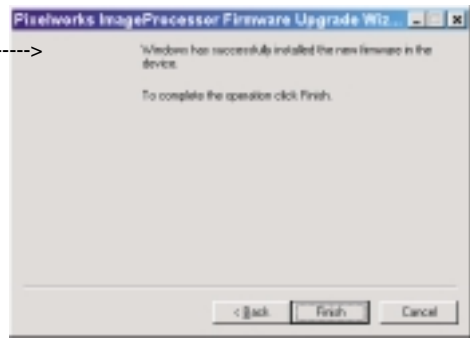

Pixelworks ImageProcessor Firmware Upgrade Wiz...
Windows has successfully installed the new firmware in the device.
To complete the operation click Finish.
< Back
Finish
Cancel

Fig. 16

Click "Finish"

Firmware upgrade for CPU (Continued)

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Step 3: Initiate Firmware of CPU for normal display.

Discnnect the Mains cord on monitor, then reconnect the Mains cord to monitor again.

2. PLUG IN---------->

1. UNPLUG---------->

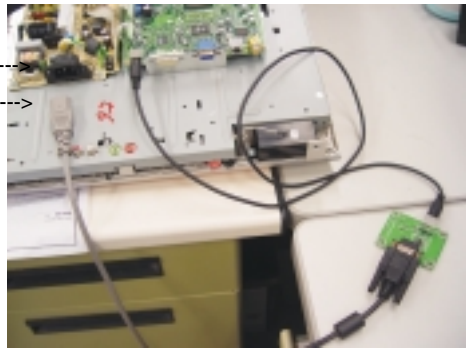

Fig. 17

Step 4: Check the updated Firmware version.

Access Factory Mode

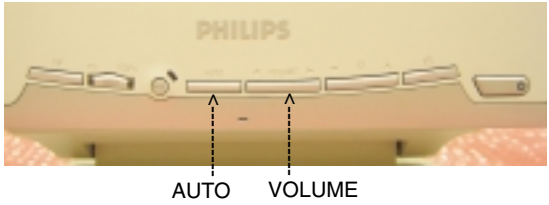

Fig. 18

Factory Mode:
How to Get into Factory Mode Menu

Turn on LCD monitor.

Push AUTO " " & Left-VOLUME" " buttons simultaneously 3 seconds around.
Bring up Factory mode indication as shown in Fig 19.

Check Firmware version : example as below.
CODE VERSION. 2.02 2002-08-07
CONFIG VERSION. 2.02 2002-08-07
OSD VERSION. 2.02 2002-08-07

Factory Mode indication==========>

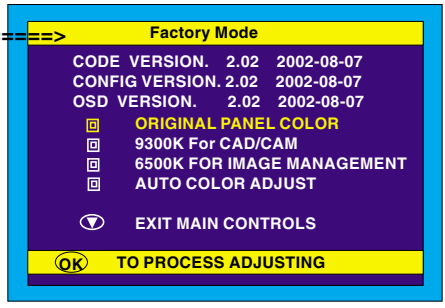

Fig. 19

PHILIPS

HUDSON2-200P 20

GENERAL PRODUCT

SPECIFICATION

. ANALOG AND DIGITAL DUAL INPUT

. AUTO PICTURE ADJUSTMENT

. 18 FACTORY PRESET MODES AND 37 PRESET MODES WHICH CAN BE RECOVERED TO PRESET MODES

. USER FRIENDLY OSD DISPLAY FOR MODE IDENTIFICATION /ADJUSTMENT

. DDC 2B COMMUNICATION CAPABILITY

. MAX. RESOLUTION 1600*1200 NON-INTERLACED AT 75 HZ

. 20 COLOR TFT LCD FLAT PANEL

. EASY TILT & SWIVEL BASE

. FULL RANGE POWER SUPPLY 90 264 VAC

. CE ENVIRONMENTAL POLICY

. ANTI-GLARE TO REDUCE LIGHT REFLECTION

. POWER MANAGEMENT CAPABILITY

. SOG SUPPORT

. TCO 99

. AUDIO SUPPORT

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CLASS NO.	20" TFT UXGA LCD CMTR(HUDSON2-200P)						
02-05-20	TYPE : 2002P3G/00C BRAND : PHILIPS	8639 000 12395					
NAME DAVID CHIANG	SUPERS.	23	590 — 1	10		A4	
TY / CHECK	DATE 02-05-20	Property of PHILIPS ELECTRONICS INDUSTRIES (TAIWAN) LTD.-B.E.					

GENERAL PRODUCT SPECIFICATION(Continued)

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CLASS NO.	20" TFT UXGA LCD CMTR(HUDSON2-200P) TYPE : 2002P3G/00C BRAND : PHILIPS			8639 000 12395			
02-05-20							
NAME DAVID CHIANG	SUPERS.	23	590 — 2	10		A4	
TY / CHECK	DATE 02-05-20	Property of PHILIPS ELECTRONICS INDUSTRIES (TAIWAN) LTD.-B.E.					

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GENERAL PRODUCT SPECIFICATION(Continued)

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PHILIPS

1.0 FOREWORD

This specification describes a 20" UXGA multi-scan color TFT LCD monitor with max. resolution up to 1600*1200 /75 Hz non-interlaced.

2.0 PRODUCT PROFILE

This display monitor unit is a color display monitor enclosed in PHILIPS global styling cabinet which has an integrated tilt and swivel base.

2.1 LCD

Type NR.	: LM201U2 (LG.PHILIPS)
Outside dimensions	: 467.8(w)*361(h)*32(d) (Typ) mm
Pitch (mm)	: 0.255 (per one triad) x 0.0.255mm
Color pixel arrangement	: RGB vertical stripes
Display surface	: low reflection, antiglare with hard coating
Color depth	: 16777216 colors (8 bits)
Backlight	: Six CCFL's
Active area(WxH)	: 408x306mm (20.1" diagonal)
View angle	: Horizontal & Vertical 170 degree (CR>5)
Contrast ratio	: 300:1
White luminance	: 250 nits (Typ)

2.2 Scanning frequencies

Hor.	: 30 - 94 K Hz
Ver.	: 56 - 85 Hz
2.3 Video dot rate	: < 140 MHz
2.4 Power input	: 90-264 V AC, 50/60+/- 2 Hz
2.5 Power consumption	: < 75W maximum
2.6 Dimensions	: 488* 460 *220mm
2.7 Weight	:10.5 KGS

2.8 Functions :

(1) D-shell analog R/G/B separate inputs, H/V sync separated, Composite (H+V) TTL level, SOG sync

(2) DVI digital Panel Link TMDS input

(3) CVBS Video :1Vp-p,75 Ohm

(4) S-Video :Y-1Vp-p,75 Ohm
C-0.3Vp-p,75 Ohm

(5)Audio Signal : For S-terminal L/R audio input
PC line in
Microphone in

2.9 Ambient temperature : 5°C - 35°C

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CLASS NO.	20" TFT UXGA LCD CMTR(HUDSON2-200P) TYPE : 2002P3G/00C BRAND : PHILIPS			8639 000 12395				
02-05-20								
NAME DAVID CHIANG	SUPERS.		23	590 — 4		10		A4
TY	CHECK	DATE 02-05-20	Property of PHILIPS ELECTRONICS INDUSTRIES (TAIWAN) LTD.-B.E.					

2.10 Regulatory compliance :

(1) Safety : UL,CSA, B-mark, SISIR, SEMKO, EN60950/IEC950, CB, RFS(NZ)

(2) EMI : FCC, VCCI, CE, C-Tick, MPRIII, BCIQ

(3) Environmental Issue: TCO99

(4) Ergonomic Requirements: TUV/GS, TUV/ISO9241-3/-8

3.0 Electrical characteristics

3.1 Interface signals

The input signals can be applied in three different modes :

1). D-shell Analog

Input signal : Video, Hsync., Vsync

Video : 0.7 Vp-p, input impedance, 75 ohm @DC

Sync. : Separate sync TTL level , input impedance 5k ohm terminate
Hor. sync Positive/Negative
Ver. sync Positive/Negative
Composite sync TTL level, input impedance 5k ohm terminate (Positive/Negative)
Sync on green video 0.3 Vp-p Negative (Video 0.7 Vp-p Positive)

2). Intel DVI Digital

Input signal : Single channel TMDS signal

3) CVBS Video : 1Vp-p,75 Ohm

4) S-Video :Y- 1Vp-p,75 Ohm
C- 0.3Vp-p,75 Ohm

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3.1.1 Audio

Input signal level : 500mVrms
Headphone output signal level : 32ohm 0.7+0.7 Vrms
Input signal connector : 3.5 mm mini jack
Loud speaker : 2+2 W stereo firing

3.1.2 Microphone

Sensitivity: -45+/- 5 dB re 1V/ubar at 1khz
Output impendence : 600 ohm typical

3.1.3 Interface

3.2.1 D-Sub Cable

Length : 1.8 M +/- 50 mm (fixed)
Connector type : D-sub male with DDC2B pin assignments.
Blue connector thumb-operated jack screws

pin assignment :

PIN No.	SIGNAL
1	Red
2	Green/SOG
3	Blue
4	Sense (GND)
5	Cable detect
6	Red GND
7	Green GND
8	Blue GND
9	+5V
10	Sync GND
11	Sense (GND)
12	Bi-directional data
13	H/H+V sync
14	V-sync
15	Data clock

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3.2.2 DVI Cable

The input signals are applied to the display through DVI-I cable.
Length : 1.8 M +/- 50 mm (fixed)
Connector type : DVI-I male with DDC2B pin assignments
White connector thumb-operated jack screws

pin assignment :

Pin No.	Description
1	TMDS data2-
2	TMDS data2+
3	TMDS data2 shield
4	NC
5	NC
6	DDC clock
7	DDC data
8	Analog V-sync
9	TMDS data1-
10	TMDS data1+
11	TMDS data1 shield
12	NC
13	NC
14	+5V
15	Ground(return for +5V and H/Vsync)
16	Hot plug detect
17	TMDS data0-
18	TMDS data0+
19	TMDS data0 shield
20	NC
21	NC
22	TMDS clock shield
23	TMDS clock+
24	TMDS clock-
C1	Analog R
C2	Analog G
C3	Analog B
C4	Analog H-sync
C5	Analog GND (Analog R, G, B return)

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3.2.3 CVBS

The input signals are applied to display through CVBS cable

pin assignment

PIN NO.	SIGNAL
1	GND
2	CVBS
3	CVBS
4	CVBS

3.2.4 S-Video

The input signals are applied to display through S-Video cable

pin assignment

PIN NO.	SIGNAL
1	GND
2	GND
3	LUMA
4	CHROMA
5	GND
6	GND
7	GND

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3.2.5 Software control functions via OSD/control
Adjustable functions:

LANGUAGE
ADJUST POSITION
ADJUST SIZE
BRIGHTNESS & CONTRAST
VIDEO NOISE
ADJUST COLOR
OSD SETTINGS
PRODUCT INFORMATION
INPUT SELECTION
PIP
RESET TO FACTORY SETTINGS
EXIT MAIN CONTROLS

LANGUAGE : ENGLISH , ESPANOL , FRANCAIS , DEUTSCH , ITALIANO, SIMPLFIED CHINESE

ADJUST POSITION : HORIZONTAL
VERTICAL

ADJUST SIZE : Full Screen
: Native Mode
: User Setting

BRIGHTNESS & CONTRAST : Brightness and Contrast adjustment.

VIDEO NOISE : Phase adjustment, Clock adjustment

ADJUST COLOR : Original panel color , 9300K for CAD/CAM, 6500k for image management, User preset red green blue adjust.

OSD SETTING : OSD H-position, OSD V-position

PRODUCT INFORMATION : Show Serial No./ Resolution / Video input.

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GENERAL PRODUCT SPECIFICATION(Continued)

INPUT SELECTION : Select Analog D-sub, DVI-D, DVI-A,CVBS,S-VIDEO
PIP
Size : Small,Medium,Large
Position : Horizontal,Vertical
Audio source : Audio 1(PC)
Audio2 (Video)

RESET TO FACTORY SETTING: recall to Factory preset settings.

(2) Digital interface OSD :

Adjustable functions:

LANGUAGE
ADJUST SIZE
BRIGHTNESS & CONTRAST
ADJUST COLOR
OSD SETTINGS
PRODUCT INFORMATION
INPUT SELECTION
PIP
RESET TO FACTORY SETTINGS
EXIT MAIN CONTROLS

LANGUAGE : ENGLISH , ESPANOL , FRANCAIS , DEUTSCH , ITALIANO, SIMPLFIED CHINESE

ADJUST POSITION : HORIZONTAL
VERTICAL

BRIGHTNESS & CONTRAST : Brightness and Contrast adjustment.
OSD POSITION : OSD H-position, OSD V-position
PRODUCT INFORMATION : Show Serial No./ Resolution / Video input.
RESET TO FACTORY SETTING : return to Factory preset timings and settings.
INPUT SELECTION : select Analog D-sub, Digital DVI-D or Analog DVI-A.
PIP
Size : Small,Medium,Large
Position : Horizontal,Vertical
Audio source : Audio 1(PC)
Audio2 (Video)

RESET TO FACTORY SETTING: recall to Factory preset settings.

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3.3 Timing requirement

3.3.1 Mode storing capacity

(1) Factory preset modes : 19

(2) Preset modes : 47

3.3.2 Factory preset timings

The factory settings of size and centering are according to the reference timing charts (see fig-4, fig-5)

MODE NO.	1	2	3	4
RESOLUTION Dot clock(MHz)	640 x 350 25.175	720 x 400 28.321	640 x 480 25.175	640 x 480 30.24
f h	31.469kHz	31.468kHz	31.5kHz	35 kHz
A (us)	31.778(800 dots)	31.78(900dots)	31.778(800 dots)	28.571 (864 dots)
B (us)	3.813(96 dots)	3.813(108dots)	3.813(96 dots)	2.116 (64 dots)
C (us)	1.907(48 dots)	1.907(54dots)	1.907(48 dot s)	3.175(96 dots)
D (us)	25.422(640 dots)	25.42(720dots)	25.422(640 dots)	21.164(640 dots)
E (us)	0.636(16 dots)	0.636(18dots)	0.636(16 dots)	2.116(64 dots)
f v	70Hz(70.09)	70Hz(70.085)	60Hz(59.940)	67Hz
O (ms)	14.27(449 lines)	14.27(449 lines)	16.683 (525 lines)	15 (525 lines)
P (ms)	0.064(2 lines)	0.064(2 lines)	0.064 (2 lines)	0.086(3 lines)
Q (ms)	1.907(60 lines)	1.112(34 lines)	1.049 (33 lines)	1.114(39 lines)
R (ms)	11.12(350 lines)	12.71(400 lines)	15.253 (480 lines)	13.714(480 lines)
S (ms)	1.175(37 lines)	0.381(13 lines)	0.317 (10 line)	0.086(3 line)
SYNC. H/V POLARITY	+/-	-/+	- / -	- / -
SEP . SYNC	Y	Y	Y	Y

MODE NO.	5	6	7	8
RESOLUTION Dot clock(MHz)	640 x 480 31.500	800 x 600 36	800 x 600 40	800 x 600 49.498
f h A (us)	37.5kHz 26.667 (840 dots)	35.156kHz 28.444(1024 dots)	37.879kHz 26.4 (1056 dots)	46.875kHz 21.333 (1056 dots)
B (us)	2.032 (64 dots)	2.000 (72 dots)	3.2 (128 dots)	1.616 (80 dots)
C (us)	3.81 (120 dots)	3.556 (128 dots)	2.2 (88 dots)	3.232 (160 dots)
D (us)	20.317 (640 dots)	22.222(800 dots)	20 (800 dots)	16.162 (800 dots)
E (us)	0.508 (16 dots)	0.666 (24 dots)	1 (40 dots)	0.323 (16 dots)
f v	75Hz	56.250Hz	60.317Hz	75Hz
O (ms) P (ms)	13.333 (500 lines) 0.08 (3 lines)	17.778 (625 lines) 0.057 (2 lines)	16.579 (628 lines) 0.106 (4 lines)	13.333 (625 lines) 0.064 (3 lines)
Q (ms)	0.427 (16 lines)	0.626 (22 lines)	0.607 (23 lines)	0.448 (21 lines)
R (ms)	12.8 (480 lines)	17.066 (600 lines)	15.84 (600lines)	12.8 (600 lines)
S (ms)	0.026 (1 lines)	0.029 (1 line)	0.026 (1 line)	0.021 (1 line)
SYNC. H/V POLARITY	- / -	+ / +	+ / +	+ / +
SEP . SYNC	Y	Y	Y	Y

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GENERAL PRODUCT SPECIFICATION(Continued)

Go to cover page

MODE NO.	9	10	11	12
RESOLUTION	832 x 624	1024 x 768	1024 x 768	1152 x 870
Dot clock(MHz)	57.28	65	78.75	100
f h	49.7kHz	48.363kHz	60.023kHz	68.7kHz
A (us)	20.11(1152 dots)	20.677(1344 dots)	16.66 (1312dots)	14.56 (1456 dots)
B (us)	1.117(64 dots)	2.092(136 dots)	1.219 (96 dots)	1.28 (128 dots)
C (us)	3.91(224 dots)	2.462(160 dots)	2.235 (176 dots)	1.44(144 dots)
D (us)	14.52(832 dots)	15.754(1024 dots)	13.003 (1024 dots)	11.52 (1152 dots)
E (us)	0.563(32 dots)	0.369(24 dots)	0.203 (16 dots)	0.32 (32 dots)
f v	75Hz	60.004Hz	75Hz (75.000)	75Hz
O (ms)	13.41(667 lines)	16.666(806 lines)	13.328 (800 lines)	13.333 (916 lines)
P (ms)	0.06(3 lines)	0.124(6 lines)	0.05(3 lines)	0.044 (3 lines)
Q (ms)	0.784(39 lines)	0.600(29 lines)	0.446 (28 lines)	0.568(39 lines)
R (ms)	12.55(624 lines)	15.880(768 lines)	12.80 (768 lines)	12.678 (870 lines)
S (ms)	0.016(1 lines)	0.062(3 lines)	0.017 (1 line)	0.043 (4 line)
SYNC. H/V POLARITY	+/+	- / -	+ / +	- / -
SEP . SYNC	Y	Y	Y	Y

MODE NO.	13	14	15	16
RESOLUTION	1152 x 900	1280 x 1024	1280 x 1024	1280x1024
Dot clock(MHz)	108	108	135	157.5
f h	71.810kHz	63.981kHz	79.976kHz	91.146kHz
A (us)	13.926 (1054dots)	15.63 (1688 dots)	12.504(1688 dots)	10.971(1728dots)
B (us)	1.185 (128 dots)	1.037 (112 dots)	1.067(144 dots)	1.106(160dots)
C (us)	1.778 (192 dots)	2.296 (248 dots)	1.837(248 dots)	1.422(224dots)
D (us)	10.667 (1152 dots)	11.852 (1280 dots)	9.481(1280 dots)	8.127(1280dots)
E (us)	0.296 (32 dots)	0.445 (48 dots)	0.119(16 dots)	0.406(64dots)
f v	76.150Hz	60.020Hz	75.025Hz	85.024Hz
O (ms)	13.132 (943 lines)	16.661 (1066 lines)	13.329(1066 lines)	11.761(1072lines)
P (ms)	0.111 (8 lines)	0.047 (3 lines)	0.038(3 lines)	0.033(3lines)
Q (ms)	0.46 (33 lines)	0.594 (38 lines)	0.475(38 lines)	0.483(44lines)
R (ms)	12.533 (900 lines)	16.005 (1024 lines)	12.804(1024 lines)	11.234 (1024lines)
S (ms)	0.028 (2 lines)	0.015 (1 line)	0.012 (1 line)	0.011(1line)
SYNC. H/V POLARITY	+ / +	+ / +	+/+	+/+
SEP . SYNC	Y	Y	Y	Y

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CLASS NO.

02-05-20

20" TFT UXGA LCD CMTR(HUDSON2-200P)
TYPE : 2002P3G/00C
BRAND : PHILIPS

8639 000 12395

NAME DAVID CHIANG | SUPERS. | 23 | 590 — 12 | 10 | A4

TY | CHECK | DATE 02-05-20

Property of PHILIPS ELECTRONICS INDUSTRIES (TAIWAN) LTD.-B.E.

MODE NO.	17	18	19
RESOLUTION	1600 x 1200	1600 x 1200	688 x 556
Dot clock(MHz)	162	202.5	27
f h	75kHz	93.750kHz	31.25kHz
A (us)	13.333(2160 dots)	10.667(2160 dots)	32 (864 dots)
B (us)	1.185(192 dots)	0.948(192 dots)	3.852 (104 dots)
C (us)	1.877(304 dots)	1.501(304 dots)	1.778 (48 dots)
D (us)	9.877(1600 dots)	7.901(1600 dots)	25.481(688 dots)
E (us)	0.395(64 dots)	0.316(64 dots)	0.889 (24 dots)
f v	60.000Hz	75.000Hz	50Hz
O (ms)	16.667(1250 lines)	13.333(1250 lines)	20 (625 lines)
P (ms)	0.040(3 lines)	0.032(3 lines)	0.128 (4 lines)
Q (ms)	0.613(46 lines)	0.491(46 lines)	1.408 (44 lines)
R (ms)	16.000(1200 lines)	12.800(1200 lines)	17.972 (556lines)
S (ms)	0.013(1 lines)	0.011(1 lines)	0.672 (21 line)
SYNC. H/V POLARITY	+/+	+/+	- / +
SEP . SYNC	Y	Y	Y

A : H- Total
B : H- Sync width
C : H- Back porch
D : H- Video width
E : H- Front porch

O : V-Total
P : V- Sync width
Q :.V- Back porch
R : V- Video length
S :.V- Front porch

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3.3.3 Horizontal scanning

Sync polarity	: Positive or Negative
Scanning frequency	: 30 - 94 K Hz

3.3.4 Vertical scanning

Sync polarity	: Positive or Negative
Scanning frequency	: 56 - 85 Hz

3.4 Power input connection

Power cord length	: 1.8 M
Power cord type	: 3 leads power cord with protective earth plug.

3.5 Power management

The power consumption and the status indication of the set with power management function are as follows,

Note : Disconnect DVI signal cable and audio module

STATUS	Horizontal	Vertical	Power Spec	LED
On	Pulse	Pulse	< 75W	Green
Stand-by	No Pulse	Pulse	< 3 W	Amber
Suspend	Pulse	No Pulse	< 3 W	Amber
off	No Pulse	No Pulse	< 3 W	Amber

According to VESA power saving signalling.
TCO92 power saving requirement
EPA energy star requirement

(Power Switch Off)
for Digital input power consumption is less 3W
(In non-DMPM recoverable off mode)

3.6 Display identification

3.6.1 In accordance with VESA Display Channel Standard V1.0 and having DDC 2B capability

3.6.2 In accordance with DVI requirement (DDWG digital Visual Interface revision 1.0) use DDC 2B and EDID 3.0 structure 2.0

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4.0 Visual characteristics

4.1 Test conditions

Unless otherwise specified, this specification is defined under the following conditions.

(1) Input signal : As defined in 3.3, 1600x 1200 non-interlaced mode (94K/75Hz), signal sources must have 75 ohm output impedance.

(2) Luminance setting : controls to be set to 200 nits with full screen 70 % duty cycle white signal

(3) Warm up: more than 30 minutes after power on with signal supplied.

(4) Ambient light: 400 -- 600 lux.

(5) Ambient temperature: 20 +/- 5°C

4.2 Resolution

Factory preset modes (19 modes)

Item	H.Freq. (KHz)	Mode	Resolution	V.Freq. (Hz)	Item	H.Freq. (KHz)	Mode	Resolution	V.Freq. (Hz)
1	31.469	IBM VGA 10H	640x350	70.086	11	60.023	VESA	1024x768	75.029
2	31.469	IBM VGA 3H	720x400	70.087	12	68.700	MACINTOSH	1152x870	75.000
3	31.469	IBM VGA 12H	640x480	59.940	13	71.810	SUN WS	1152x900	76.150
4	35.000	MACINTOSH	640x480	67.000	14	63.981	VESA	1280x1024	60.020
5	37.500	VESA	640x480	75.000	15	79.976	VESA	1280x1024	75.025
6	35.156	VESA	800x600	56.250	16	91.1	VESA	1280x1024	85
7	37.879	VESA	800x600	60.317	17	75.0	VESA	1600x1200	60
8	46.875	VESA	800x600	75.000	18	93.8	VESA	1600x1200	75
9	49.700	MACINTOSH	832x624	75.000	19	31.250	TV-PAL	688x556	50.
10	48.363	VESA	1024x768	60.004					

Note : 1. Screen displays perfect picture at 19 factory preset modes
2. Screen displays visible picture with OSD warning when input modes are other then 47 preset modes

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4.3 Brightness : 200 nits (at panel color temperature, 9 points averaged, Fig. 1)

4.4 Image size

4.4.1 Actual display size

408x306mm

4.5 Brightness uniformity

Set contrast at 100% and turn the brightness to get average above 200 nits at center of the screen.
Apply the Fig 1, it should comply with the following formula:

$$\frac{|B\_max \text{ or } B\_min - B\_ave|}{B\_ave} \times 100\% < 20\%$$

Where B_max =Maximum brightness
B_min = Minimum brightness
B_ave = Average 9 points brightness

4.6 Check Cross talk (S)

Apply Pattern 2. Set contrast and brightness at 100 %.
Measure YA. Then output Pattern 3 and measure YB.
the cross talk value :

$$\frac{ABS(YA - YB)}{YA} \times 100\% < 1.2\ \%$$

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4.7 White color adjustment

There are two factory preset white color 9300K, 6500K.

Apply full gray64 pattern, with brightness in 100 % position and the contrast control at 50 % position.
The 1931 CIE Chromaticity (color triangle) diagram (x,y) coordinate for the screen center should be:

9300K CIE coordinates	X = 0.281+/- 0.020 Y = 0.311+/- 0.020
6500K CIE coordinates	X = 0.312 +/- 0.020 Y = 0.338 +/- 0.020

5.0 Mechanical characteristics

5.1 Controls

Front side:
- DC power switch
- OSD function key
-UP
-DOWN
-LEFT
-RIGHT
-AUTO
-MUTE
-SOURCE
-PIP
-External Microphone Jack
-Earphone Jack

Rear :
-S-Video
-CVBS
-D-SUB
- DVI
- Power cord socket
-Pin jack
- Audio in jack
-Microphone out jack

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5.2 Unit dimension / Weight

Set dimension (incl. pedestal) : 488(W) * 460(H) * 220(D) mm

Net weight : : 10.5 KG

5.3 Tilt and swivel base

tilt angle : -5 to +25

5.4 Transportation packages

5.4.1 Shipping dimension/Weight
Carton dimension : 564(W) X 526(H) X 292(D) mm
Gross weight : 12.5 KG

5.4.2 Block unit / Palletization

layers/block	sets/layer	sets/block unit
7	4	28

6.0 Environmental characteristics
The following sections define the interference and susceptibility condition limits that might occur between external environment and the display device.

6.1 Susceptibility of display to external environment

Operating
- Temperature : 5 to 35 degree C
- Humidity : 80% max
- Altitude : 0-3658m
- Air pressure : 600-1100 mBAR

Storage
- Temperature : -20 to 60 degree C
- Humidity : 85% max (< 40℃)
- Altitude : 0-12192m
- Air pressure : 300-1100 mBAR

Note: recommend at 5 to 35C, Humidity less than 60 %

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6.2 Transportation tests
6.3

Standard		Philips UAN-D1400	NSTA
Drop Test	Height	70 cm	61 cm
	Sequence	1 corner 3 faces	1 corner 3 edge 6 face
	Test Result	electrical function ok mechanical function ok no serious damage on set appearance (room temp./-10 c, humidity 70 %)	
Vibration Test	Sequence	5-200 Hz 0.73 G 30 min. for each axis	10-50-10 Hz 0.35 mm 30 min. for each axis
	Test Result	electrical function ok mechanical function ok no serious damage on set appearance	
Bump Test	For design evaluation only operating 10 G, 11 msec, 1000 cycles temperature : 23 C humidity : 60 % air pressure : 100 kpa (according to DSD draft standard UAN -D636)		

6.3 Display disturbances from external environment
According to IEC 801-2 for ESD disturbances

6.4 Display disturbances to external environment

6.4.1 EMI
EMI : FCC,VCCI,CE,C-Tick, MPRIII, BCIQ

7.0 Reliability

7.1 Mean Time Between Failures
System MTBF (Excluding the LCD panel and CCFL) : 50,000 hrs
CCFL MTBF : 40,000 hrs

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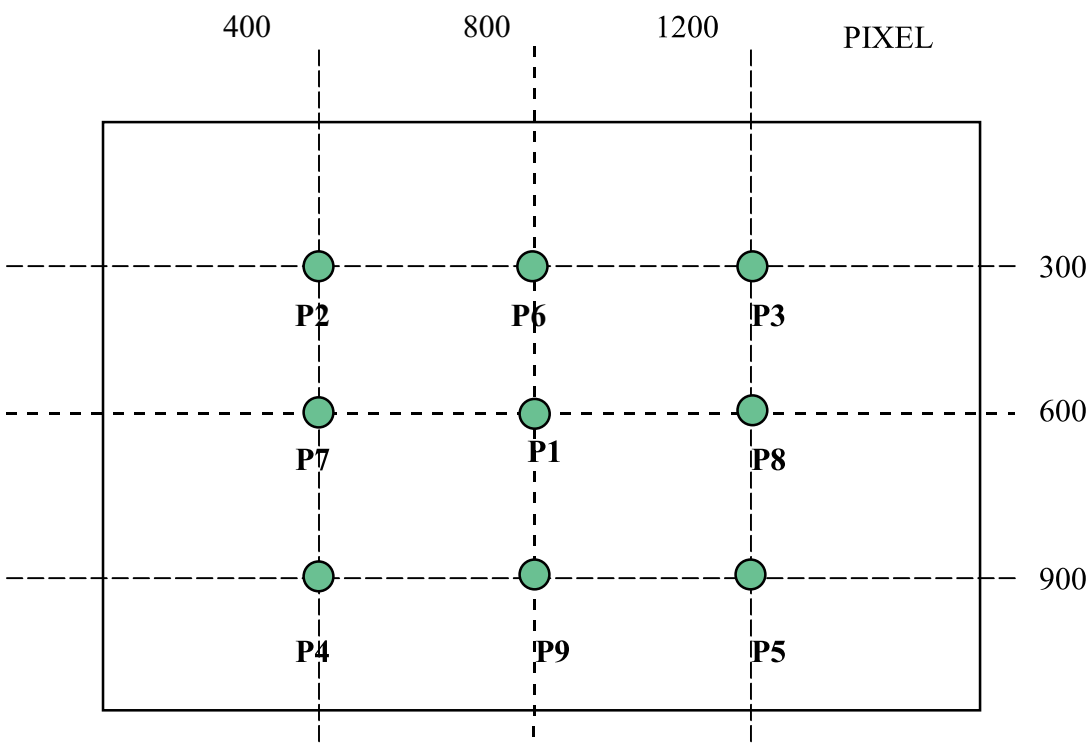
8.0 Quality assurance requirements

8.1 Acceptance test
according to MIL-STD-105D Control II level

AQL : 0.65 (major)
2.50 (minor)
(please also refer to annual quality agreement)
Customer acceptance criteria : UAW0377/00

9.0 Serviceability
The serviceability of this monitor should fulfill the requirements which are prescribed in UAW-0346 and must be checked with the check list UAT-0361.

Fig 1: Brightness and Uniformity



Average = 9 points average

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Fig 2: Cross talk pattern

Gray level 46 (64 Gray level)

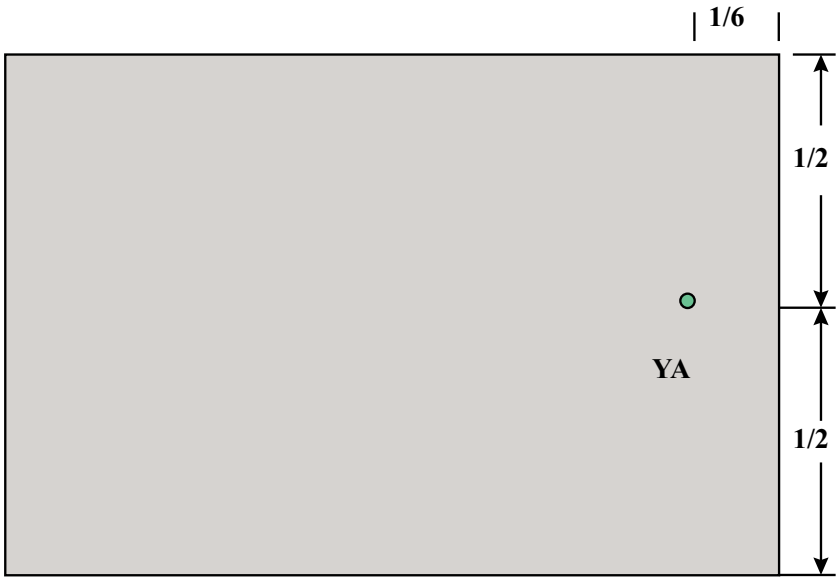
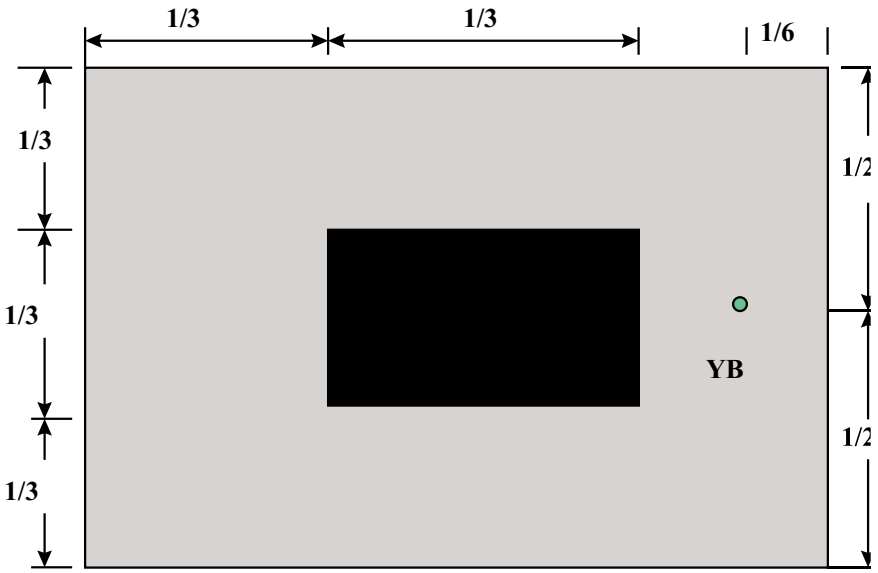


Fig 3: Cross talk Pattern

Center at Gray level 0 (Black)



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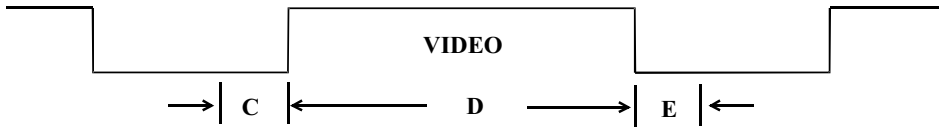
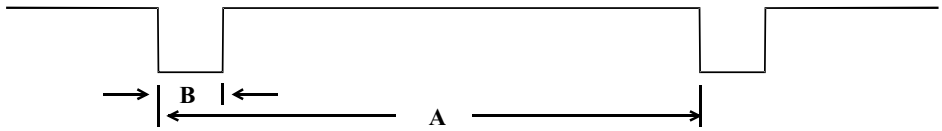
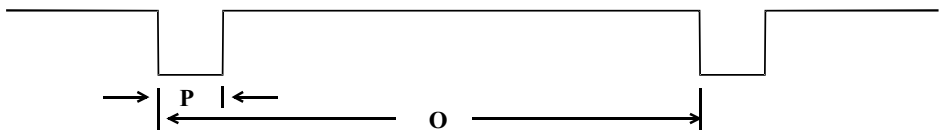
SEPARATE SYNC.



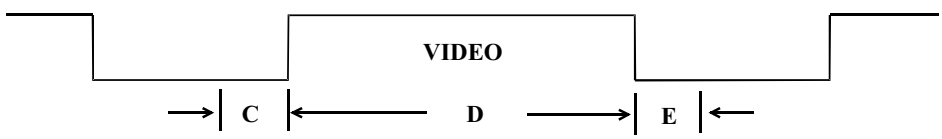
HORIZONTAL



VERTICAL



COMPOSITE SYNC.



HORIZONTAL

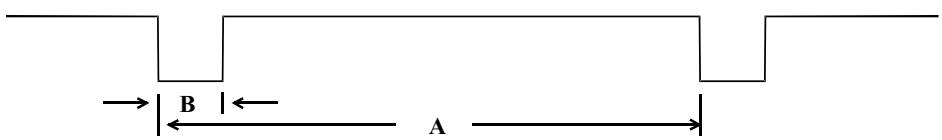


FIG-4 TIMING CHART -1

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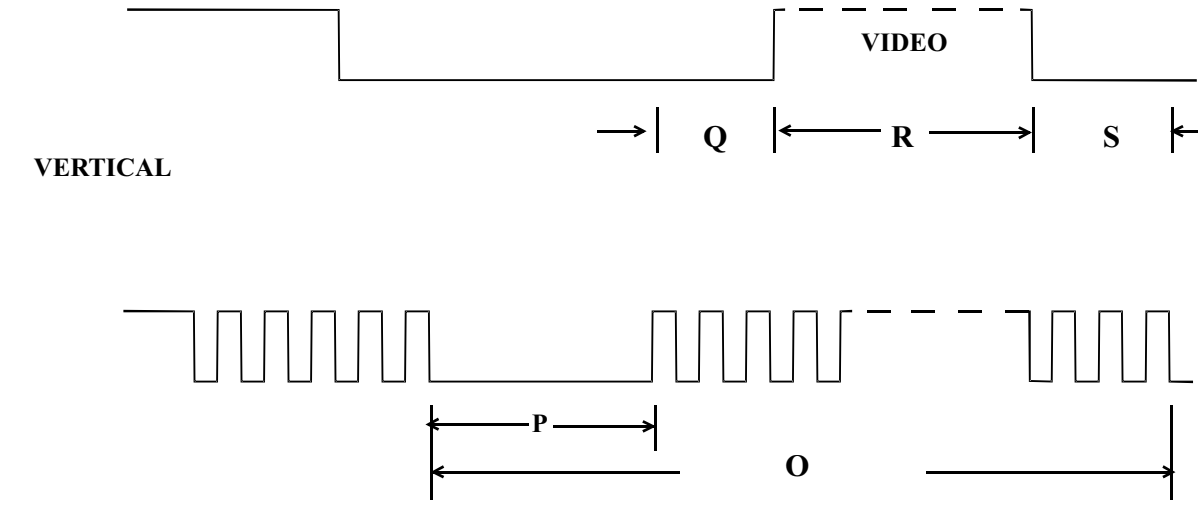
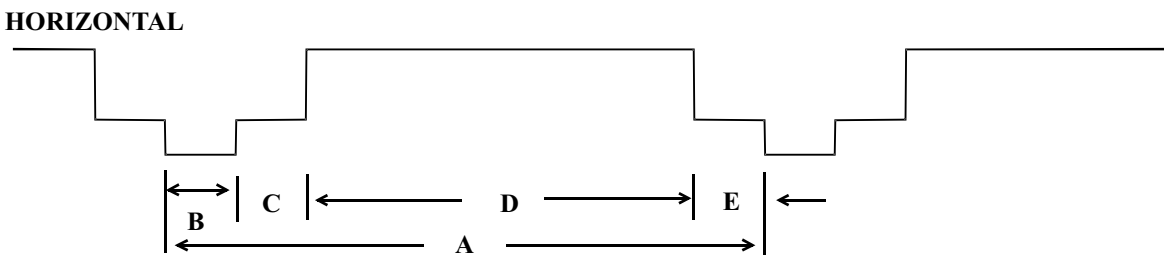
CLASS NO.	20" TFT UXGA LCD CMTR(HUDSON2-200P) TYPE : 2002P3G/00C BRAND : PHILIPS			8639 000 12395				
02-05-20								
NAME DAVID CHIANG	SUPERS.	23	590 — 22	10		A4		
TY / CHECK	DATE 02-05-20	Property of PHILIPS ELECTRONICS INDUSTRIES (TAIWAN) LTD.-B.E.						



COMPOSITE SYNC. & VIDEO
(SYNC. ON GREEN)



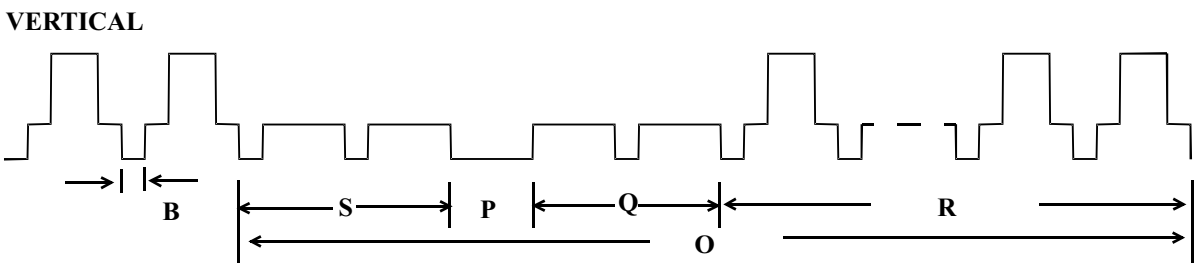


FIG-5 TIMING CHART -2

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Safety Test Requirements

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All units that are returned for service or repair must pass the original manufactures safety tests. Safety testing requires both *Hipot* and *Ground Continuity* testing.

HI-POT TEST INSTRUCTION

1. Application requirements

1.1 All mains operated products must pass the Hi-Pot test as described in this instruction.

1.2 This test must be performed again after the covers have been refitted following the repair, inspection or modification of the product.

2. Test method

2.1 Connecting conditions

2.1.1 The test specified must be applied between the parallel-blade plug of the mainscord and all accessible metal parts of the product.

2.1.2 Before carrying out the test, reliable conductive connections must be ensured and thereafter be maintained throughout the test period.

2.1.3 The mains switch(es) must be in the "ON" position.

2.2 Test Requirements

All products should be HiPot and Ground Continuity tested as follows:

Condition	HiPot Test for products where the mains input range is Full range(or 220V AC)	HiPot Test for products where the mains input is 110V AC(USA type)	Ground Continuity Test requirement
Test voltage	2820VDC (2000VAC)	1700VDC (1200VAC)	Test current: 25A,AC Test time: 3 seconds(min.) Resistance required: <=0.09+R ohm, R is the resistance of the mains cord.
Test time (min.)	3 seconds	1 second	
Trip current (Tester)	set at 100 uA for Max. limitation; set at 0.1 uA for Min. limitation	5 mA	
Ramp time	set at 2 seconds		

2.2.1 The test with AC voltage is only for production purpose, **Service center shall use DC voltage.**

2.2.2 The minimum test duration for Quality Control Inspector must be 1 minute. No breakdown during the test.

2.2.3 The test voltage must be maintained within the specified voltage + 5%.

2.2.4 The grounding blade or pin of mains plug must be conducted with accessible metal parts.

3. Equipments and Connection

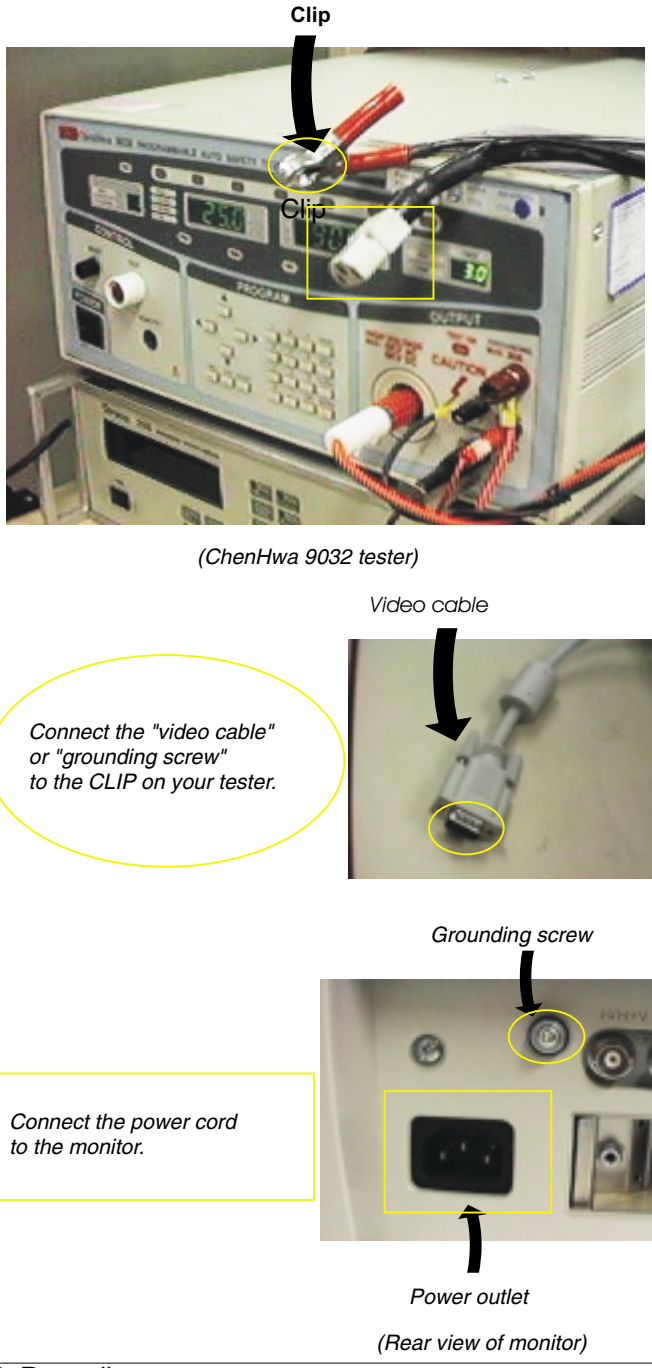
3.1. Equipments

For example :

- ChenHwa 9032 PROGRAMMABLE AUTO SAFETY TESTER
- ChenHwa 510B Digital Grounding Continuity Tester
- ChenHwa 901 (AC Hi-pot test), 902 (AC, DC Hi-pot test) Withstanding Tester

3.2. Connection

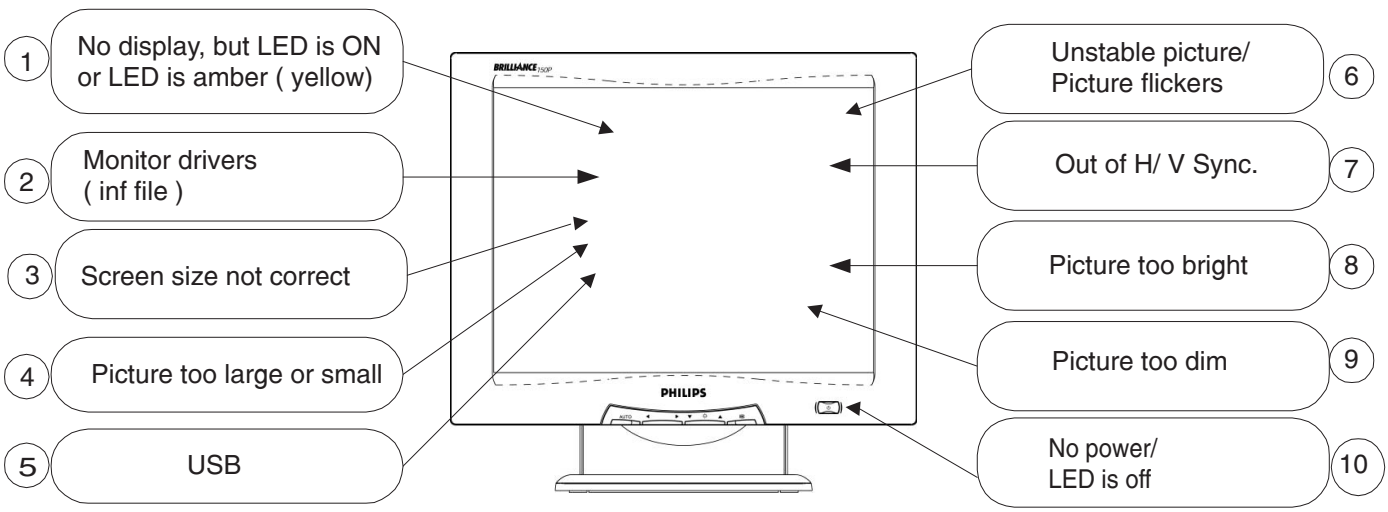
* Turn on the power switch of monitor before Hipot and Ground Continuity testing.

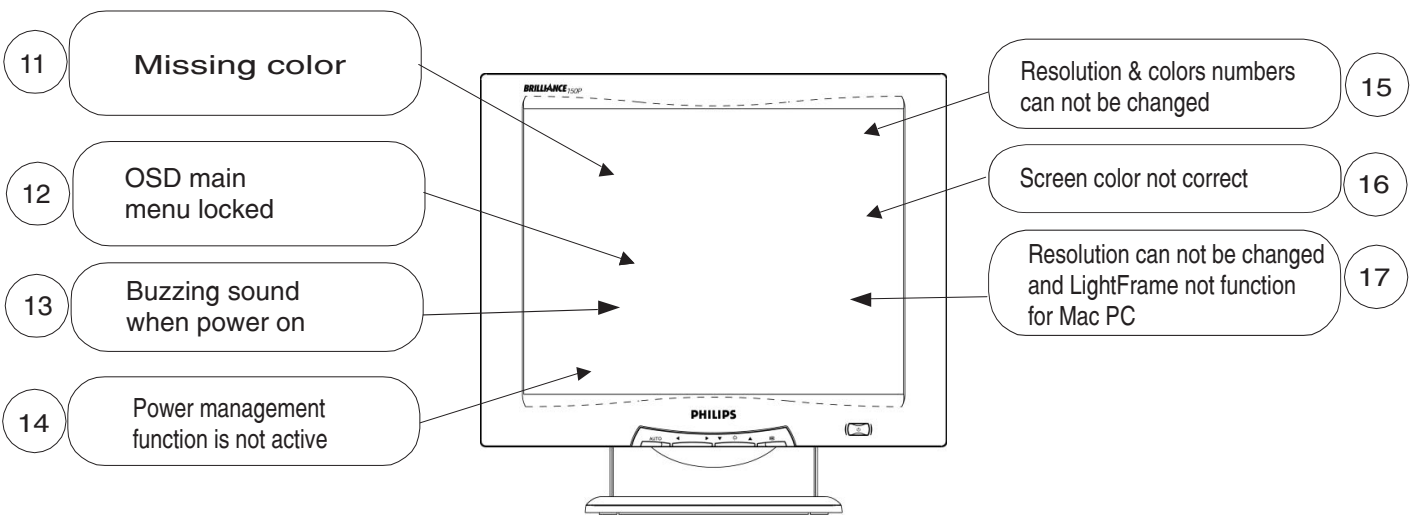


4. Recording

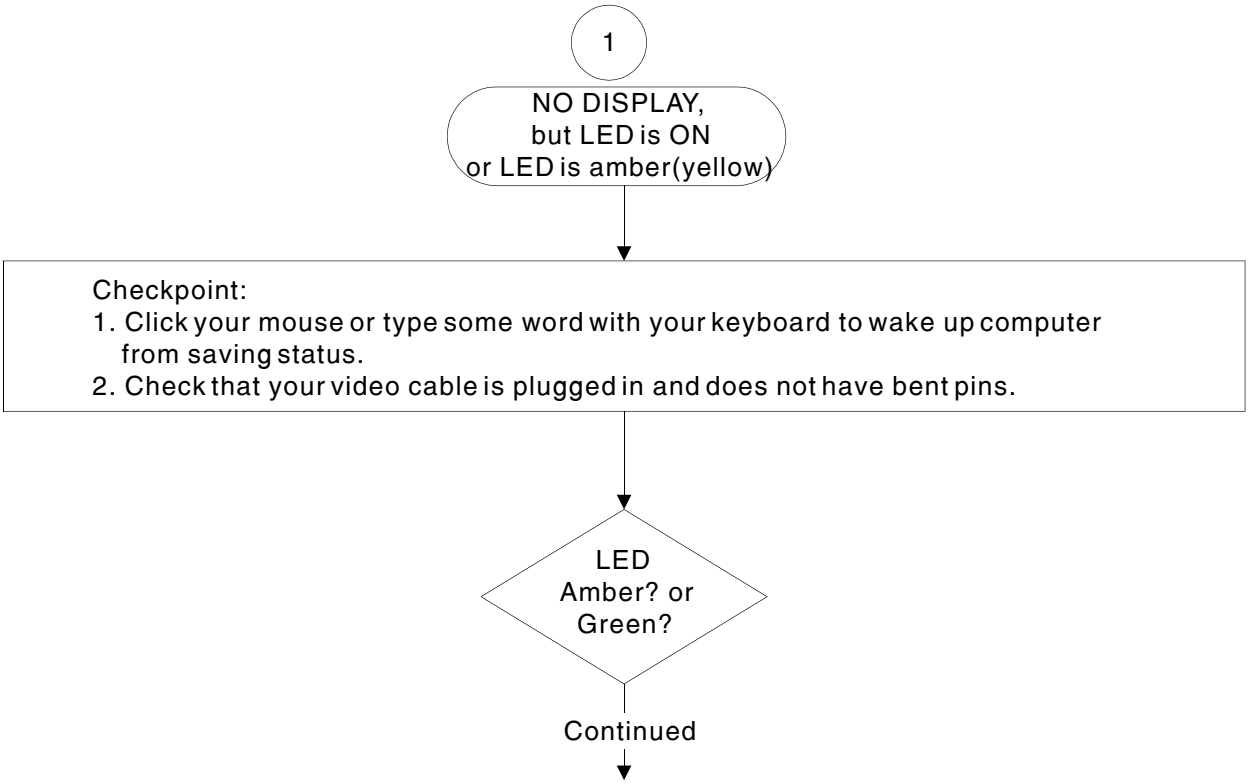
Hipot and Ground Continuity testing records have to be kept for a period of 10 years.

General Troubleshooting Guide





General Troubleshooting Guide (Continued)

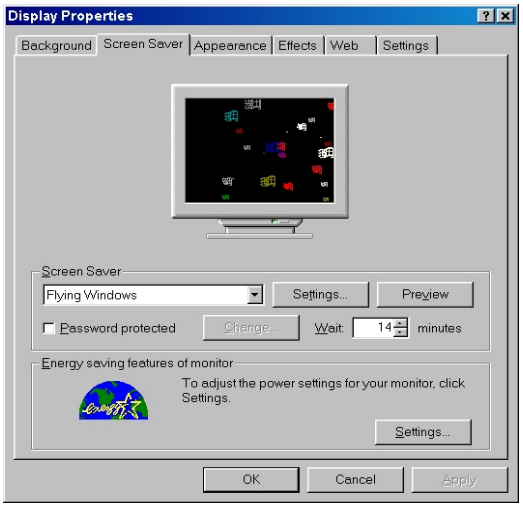

1
NO DISPLAY,
but LED is ON
or LED is amber(yellow)
Checkpoint:
1. Click your mouse or type some word with your keyboard to wake up computer from saving status.
2. Check that your video cable is plugged in and does not have bent pins.
LED
Amber? or
Green?
Continued

If your PC in MS Win 98 and with lots of application software.

Do not set screen saver ->Wait -> at "14" minutes.

It will cause "no dispaly" problem as above mentioned.

Action : Restart PC and change timer setting of screen saver.



General Troubleshooting Guide (Continued)

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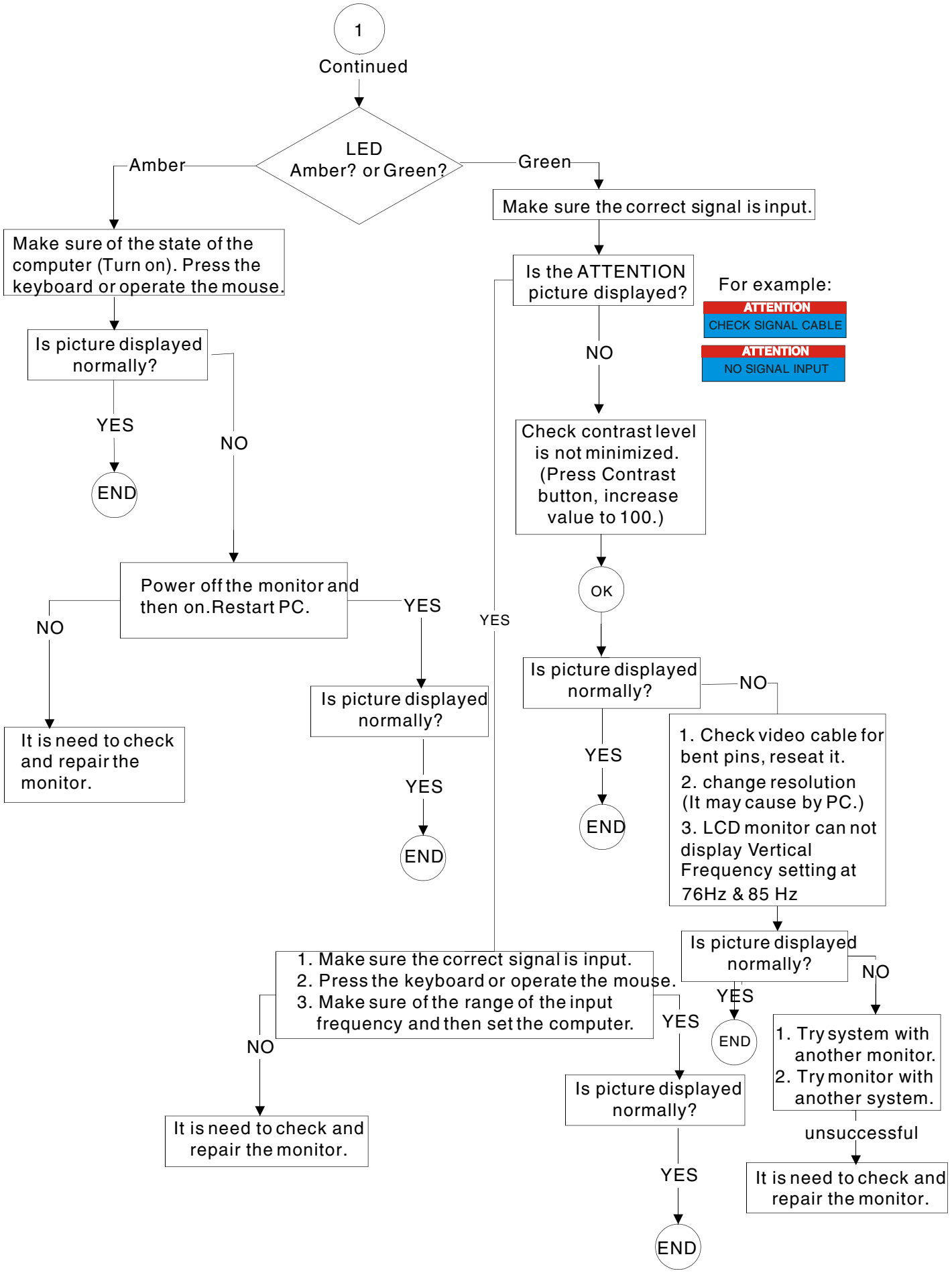
1
Continued
LED
Amber? or Green?
Amber
Green
Make sure of the state of the computer (Turn on). Press the keyboard or operate the mouse.
Is picture displayed normally?
YES
END
NO
Power off the monitor and then on.Restart PC.
NO
It is need to check and repair the monitor.
YES
Is picture displayed normally?
YES
END
Make sure the correct signal is input.
Is the ATTENTION picture displayed?
For example:
ATTENTION
CHECK SIGNAL CABLE
ATTENTION
NO SIGNAL INPUT
NO
Check contrast level is not minimized. (Press Contrast button, increase value to 100.)
OK
Is picture displayed normally?
NO
YES
END
1. Check video cable for bent pins, reseat it.
2. change resolution (It may cause by PC.)
3. LCD monitor can not display Vertical Frequency setting at 76Hz & 85 Hz
Is picture displayed normally?
NO
YES
END
1. Try system with another monitor.
2. Try monitor with another system.
unsuccessful
It is need to check and repair the monitor.
YES
1. Make sure the correct signal is input.
2. Press the keyboard or operate the mouse.
3. Make sure of the range of the input frequency and then set the computer.
NO
It is need to check and repair the monitor.
YES
Is picture displayed normally?
YES
END

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Forward

General Troubleshooting Guide (Continued)

2 **Monitor drivers (inf file)**

for Windows 95/98/2000/Me or later

Philips' monitors build in VESA DDC2B feature to support Plug & Play requirement for Windows 95/98/2000/Me . You can install the information file (.inf) in order to select your Philips monitor from "Monitor" dialog box in Windows 95/98/2000/Me to activate Plug & Play application. The installation procedure based on Windows '95 OEM Release 2 , 98 , Me and 2000 is specified as follows, (In case of connecting the monitor to the PC compliant with VESA standard with the designated signal cable, the PC reads display pixels, frequency, and color feature of this monitor to optimise the picture for the monitor automatically.)
DDC : Abbreviation for Display Data Channel

**** Windows NT 4.0 does not require driver (inf file) for monitors.****

For Windows 95

For Windows95 drivers , your monitor is listed under manufacture name "Philips Business Electronics Co.".

1. Start Windows '95
2. Click the 'Start' button, point to 'Setting', and then click 'Control Panel'.
3. Double Click the 'Display' Icon.
4. Choose the 'Settings' tab then click 'Advanced...'.
5. Choose 'Monitor' button, point to 'Change...' then click 'Have Disk...'.
6. Click 'Browse...' button then choose the appropriate drive F: (CD-ROM Drive) then click 'OK' button.
7. Click the 'OK' button then choose your monitor model and click the 'OK'.
8. Click 'Close' button.

For Windows 98

For Windows98 drivers, our monitors are listed under 2 manufactures name "Philips", and "Philips Consumer Electronics Co". Please select "Philips" when you would like to set up your monitor in Windows setting , if you can not find the right model name just as the label indication on the back of set. For those set that have been issued since the release of Win98 , drivers can be found in CDROM under the directory path of " \ pc\ driver \" or it may be downloaded at "http: \www.philips.com". Once you have installed the new driver , Windows will add a new manufacture name "Philips Business Electronics" in your system.

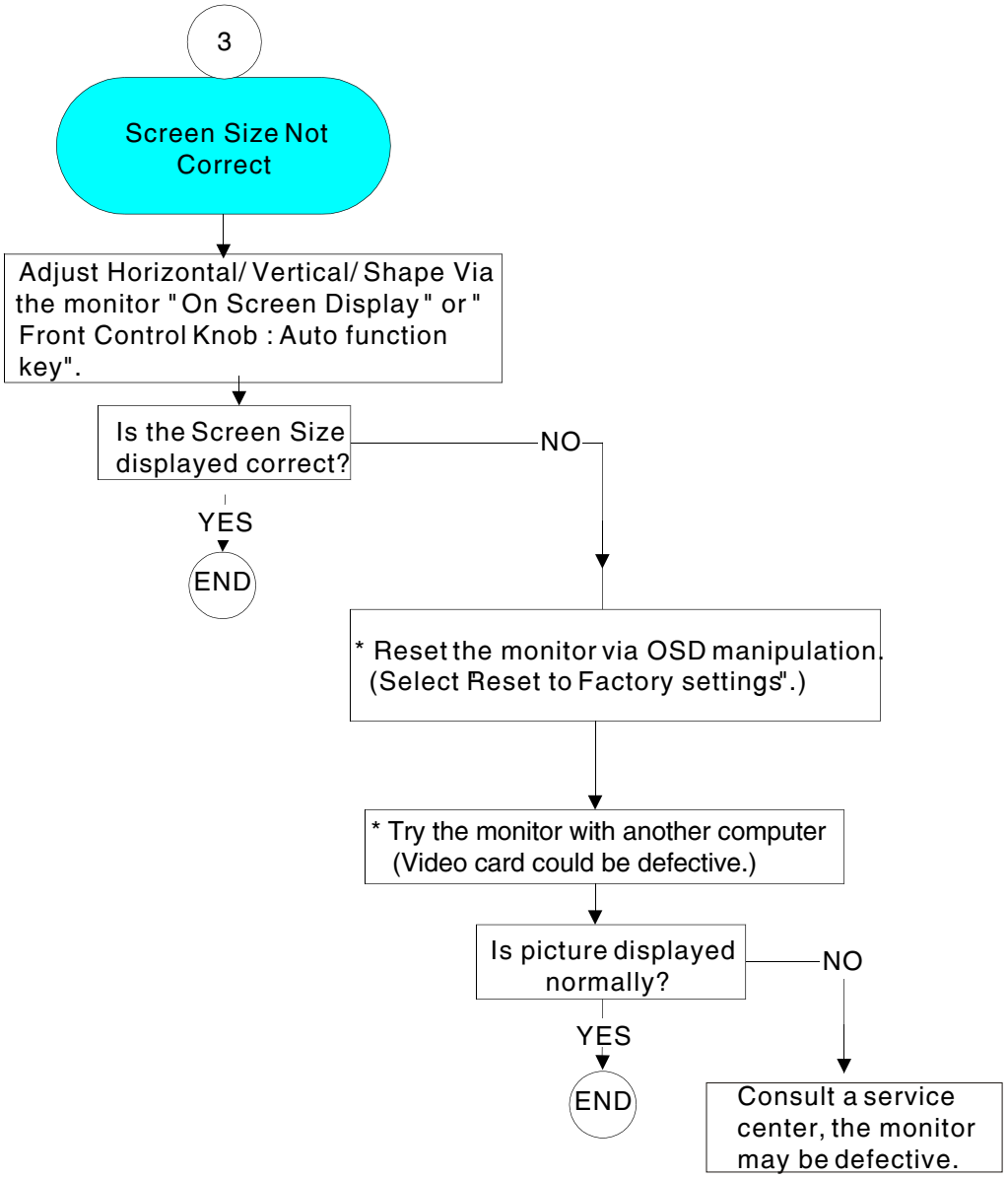
1. Start Windows 98
2. Click the 'Start' button, point to 'Setting', and then click 'Control Panel'.
3. Double Click the 'Display' Icon.
4. Choose the 'Settings' tab then click 'Advanced...'.
5. Choose 'Monitor' button, point to 'Change...' then click 'Next'
6. Choose "Display a list of all the drivers in a specific location, so you can elect the driver you want. " then click 'Next' and then click 'Have Disk...'.
7. Click 'Browse...' button then choose the appropriate drive F: (CD-ROM Drive) then click 'OK' button.
8. Click the 'OK' button then choose your monitor model and click the 'Next' button then click 'Next' button.
9. Click 'Finish' button then the 'Close' button.

For Windows Me

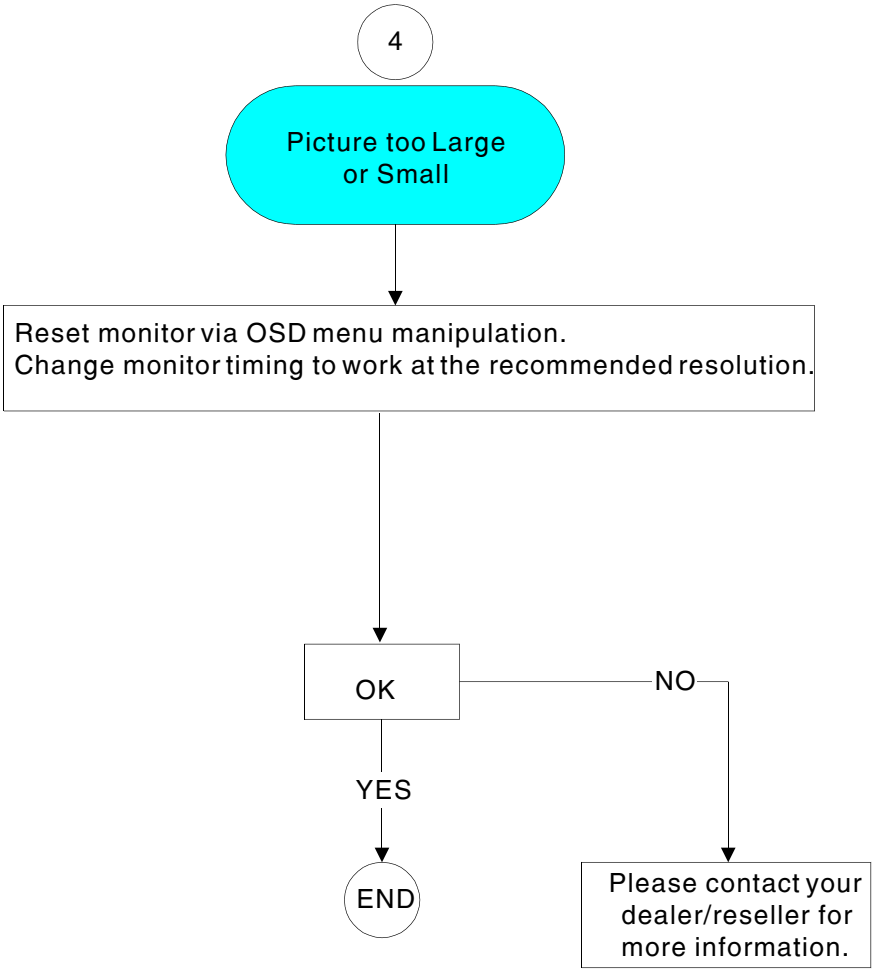
1. Start Windows Me
2. Click the 'Start' button, point to 'Setting', and then click 'Control Panel'.
3. Double Click the 'Display' Icon.
4. Choose the 'Settings' tab then click 'Advanced...'.
5. Choose 'Monitor' button, then click 'Change...' button.
6. Choose "Specify the location of the driver (Advanced)" and click the 'Next' button.
7. Choose "Display a list of all the drivers in a specific location, so you can select the driver you want." then click 'Next' and then click 'Have Disk...'.
8. Click 'Browse...' button then choose the appropriate drive F: (CD-ROM Drive) then click 'OK' button.
9. Click the 'OK' button then choose your monitor model and click the 'Next' button then click 'Next' button.
10. Click 'Finish' button then the 'Close' button.

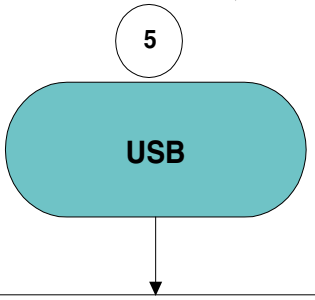
For Windows 2000

1. Start Windows 2000
2. Click the 'Start' button, point to 'Setting', and then click 'Control Panel'.
3. Double Click the 'Display' Icon.
4. Choose the 'Settings' tab then click 'Advanced...'.
5. Choose 'Monitor'
   - If the 'Properties' button is inactive, it means your monitor is properly configured. Please stop installation.
   - If the 'Properties' button is active. Click 'Properties' button. Please follow next step continually.
6. Click 'Driver' and then click on 'Update Driver...' then click on the 'Next' button.
7. Choose "Display a list of the known drivers for this device so that I can choose a specific driver" then click 'Next' and then click 'Have disk...'.
8. Click 'Browse...' button then choose the appropriate drive F: (CD-ROM Drive).
9. Click the 'Open' button, then click the 'OK' button.
10. Choose your monitor model and click the 'Next' button then click 'Next' button.
11. Click 'Finish' button then the 'Close' button. If you can see the "Digital Signature Not Found" window then click the 'Yes' button.


3
Screen Size Not Correct
Adjust Horizontal/ Vertical/ Shape Via the monitor "On Screen Display" or "Front Control Knob : Auto function key".
Is the Screen Size displayed correct?
NO
YES
END
* Reset the monitor via OSD manipulation. (Select "Reset to Factory settings".)
* Try the monitor with another computer (Video card could be defective.)
Is picture displayed normally?
NO
YES
END
Consult a service center, the monitor may be defective.

General Troubleshooting Guide (Continued)





USB = Universal Serial Bus

USB is the simple way to connect peripherals to your computer. It can be used to attach a wide variety of devices like scanners, cameras, keyboards, mice, speakers,printer ..etc.

Useing USB devices (Operating Systems support USB) :
It depends on two things: hardware and software.
Hardware : You need a USB port in your computer. This can either be built in (most PC's build in 1999 and Apple's iMac) or from a plug in card. A number of venders sell PCI and CardBus USB adapters which can add USB capabilities to your older computer.
Software-wise for Wintel computers, you need either **Windows 98, Windows 95 OSR 2.1** (although Windows 98 has better USB support than Windows 95), **Windows 2000**. For Apple Macintosh computers you need **MacOS 8.1 or later**.

USB automatically determines resources (like driver software and bus bandwidth) required by peripherals.
USB makes necessary resources available without user intervention.
It is designed to meet Microsoft Plug and Play (PnP) specification, meaning users can install, and hot-swap devices without long installation procedures and reboots.
It allows 127 devices to run at the same time on the bus.

USB bus provides two types of data transfer speed -- 1.5Mbps and 12Mbps
and it can provide a maximum of 500mA of current to devices attached on the bus.
Universal means all peripherals share the same connector.
Serial simply defines devices can daisy chain together.
Universal Serial Bus 1.1, the de facto external connectivity standard for Mac and PC, has picked up the speed after its slow adoption by peripheral manufacturers, users and PC OEMs.

USB 2.0 :
Drafted by Compaq, Hewlett Packard, Intel, Lucent, Microsoft, NEC and Philips, USB Specification version 2.0 will increase device data throughout up to 480Mbps, 40 times faster than USB 1.1 devices.

General Troubleshooting Guide (Continued)

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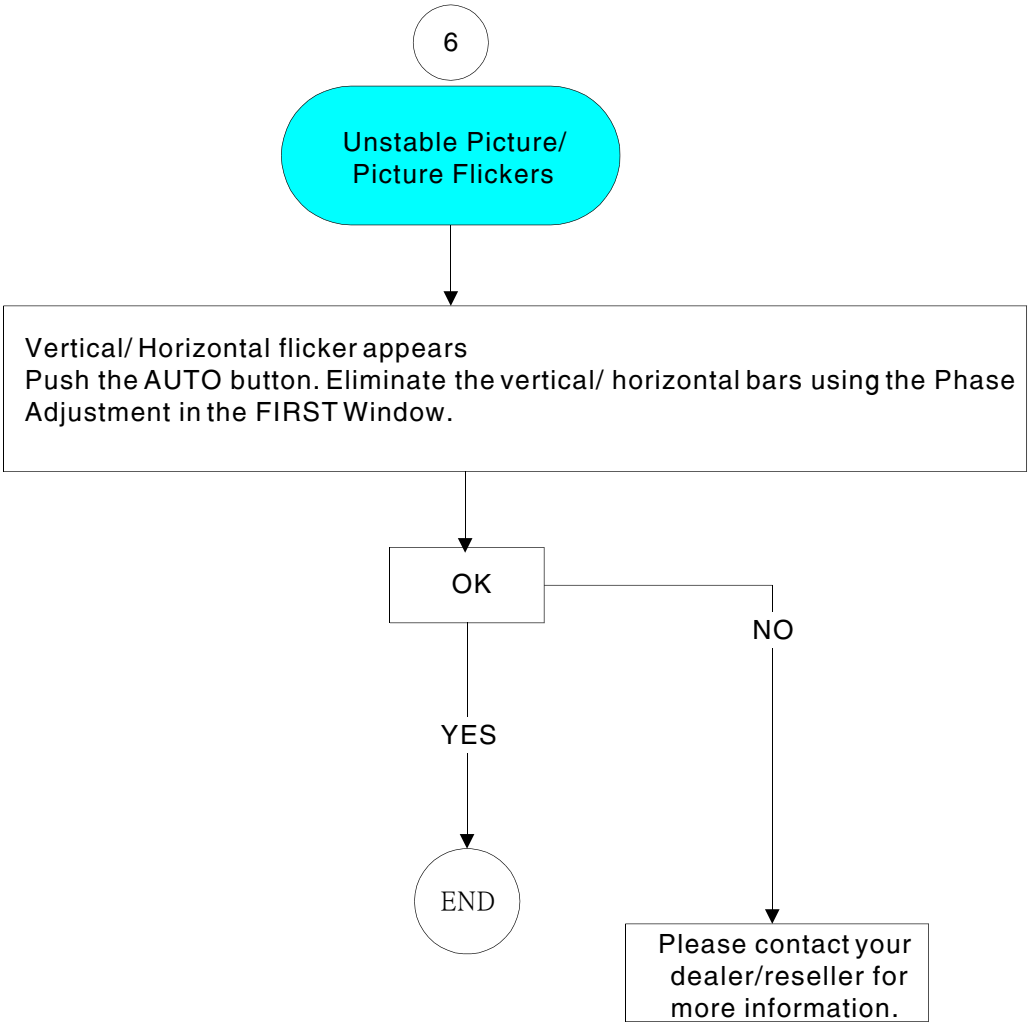

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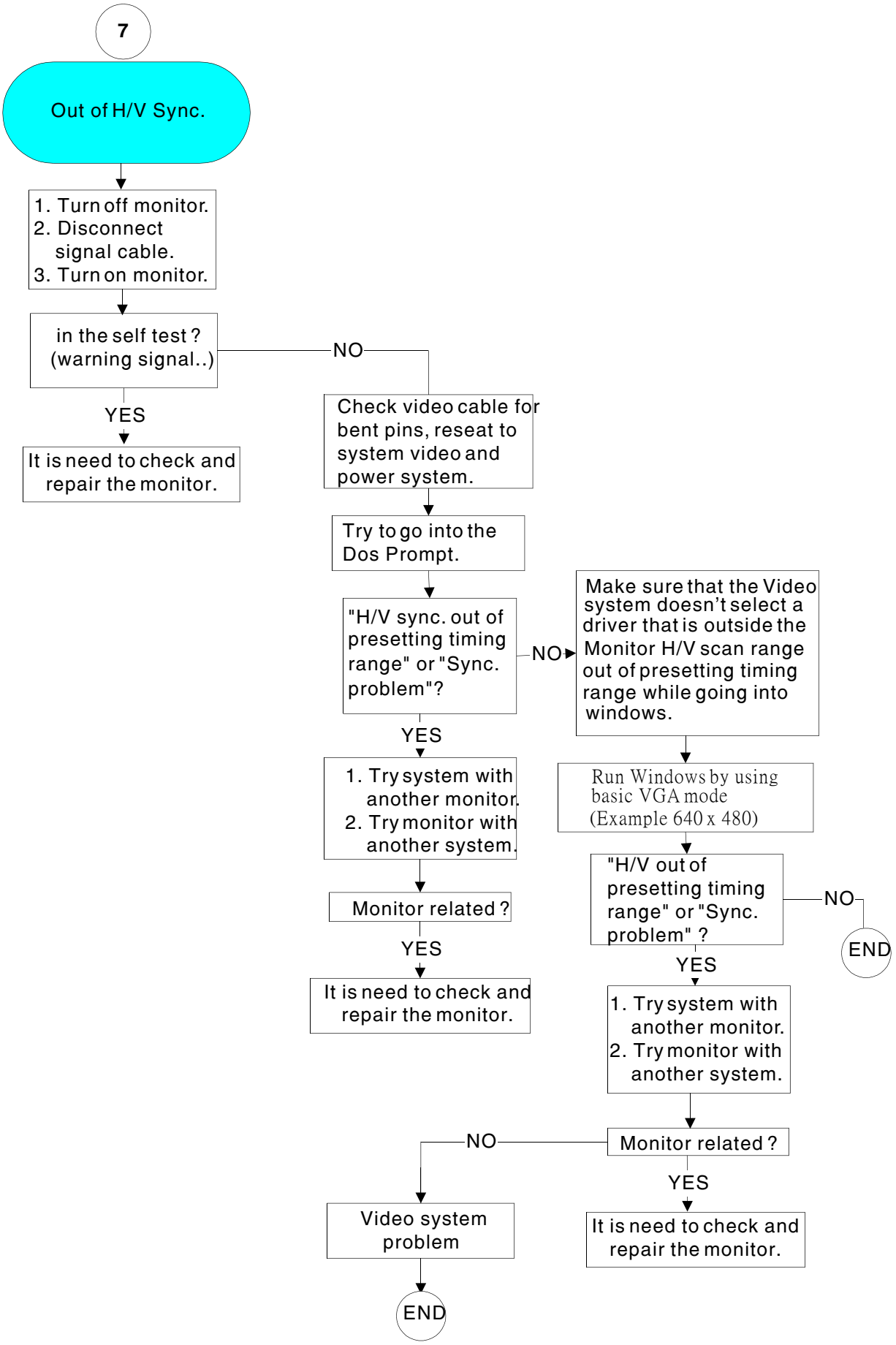
7
Out of H/V Sync.
1. Turn off monitor.
2. Disconnect signal cable.
3. Turn on monitor.
in the self test ? (warning signal..)
NO
YES
It is need to check and repair the monitor.
Check video cable for bent pins, reseat to system video and power system.
Try to go into the Dos Prompt.
"H/V sync. out of presetting timing range" or "Sync. problem"?
NO
YES
Make sure that the Video system doesn't select a driver that is outside the Monitor H/V scan range out of presetting timing range while going into windows.
Run Windows by using basic VGA mode (Example 640 x 480)
"H/V out of presetting timing range" or "Sync. problem" ?
NO
END
YES
1. Try system with another monitor.
2. Try monitor with another system.
Monitor related ?
YES
It is need to check and repair the monitor.
1. Try system with another monitor.
2. Try monitor with another system.
Monitor related ?
NO
YES
Video system problem
END
It is need to check and repair the monitor.

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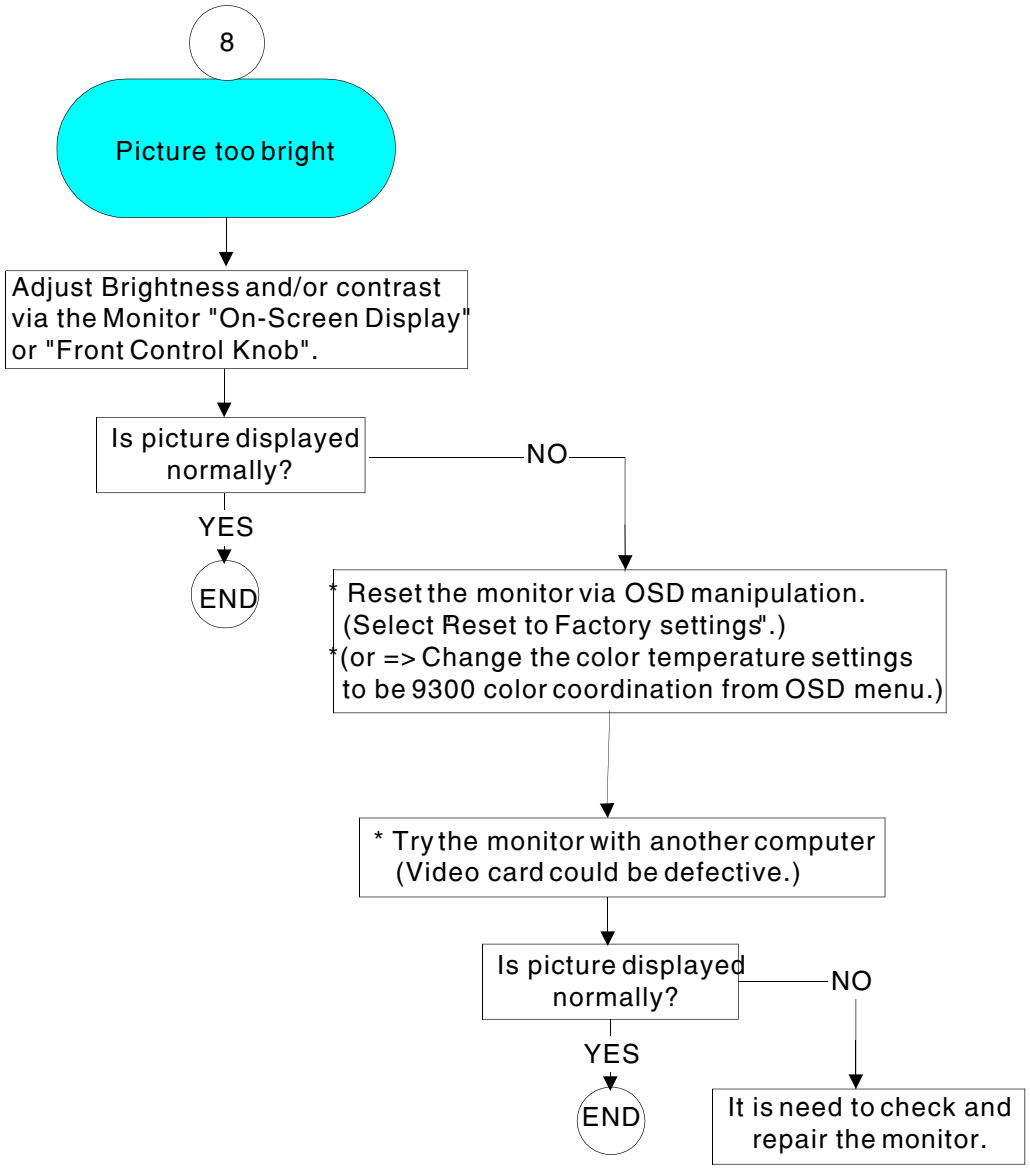
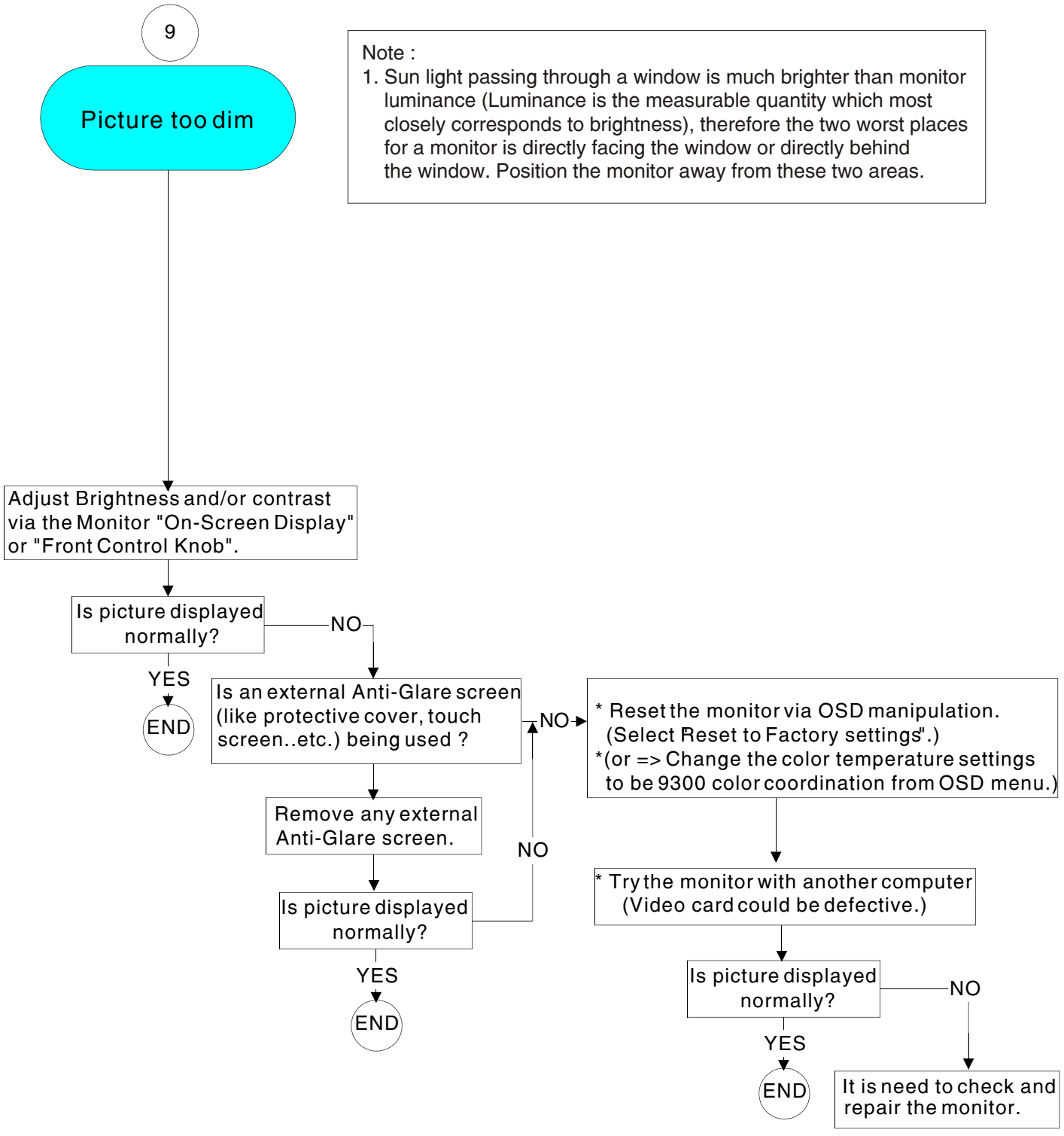
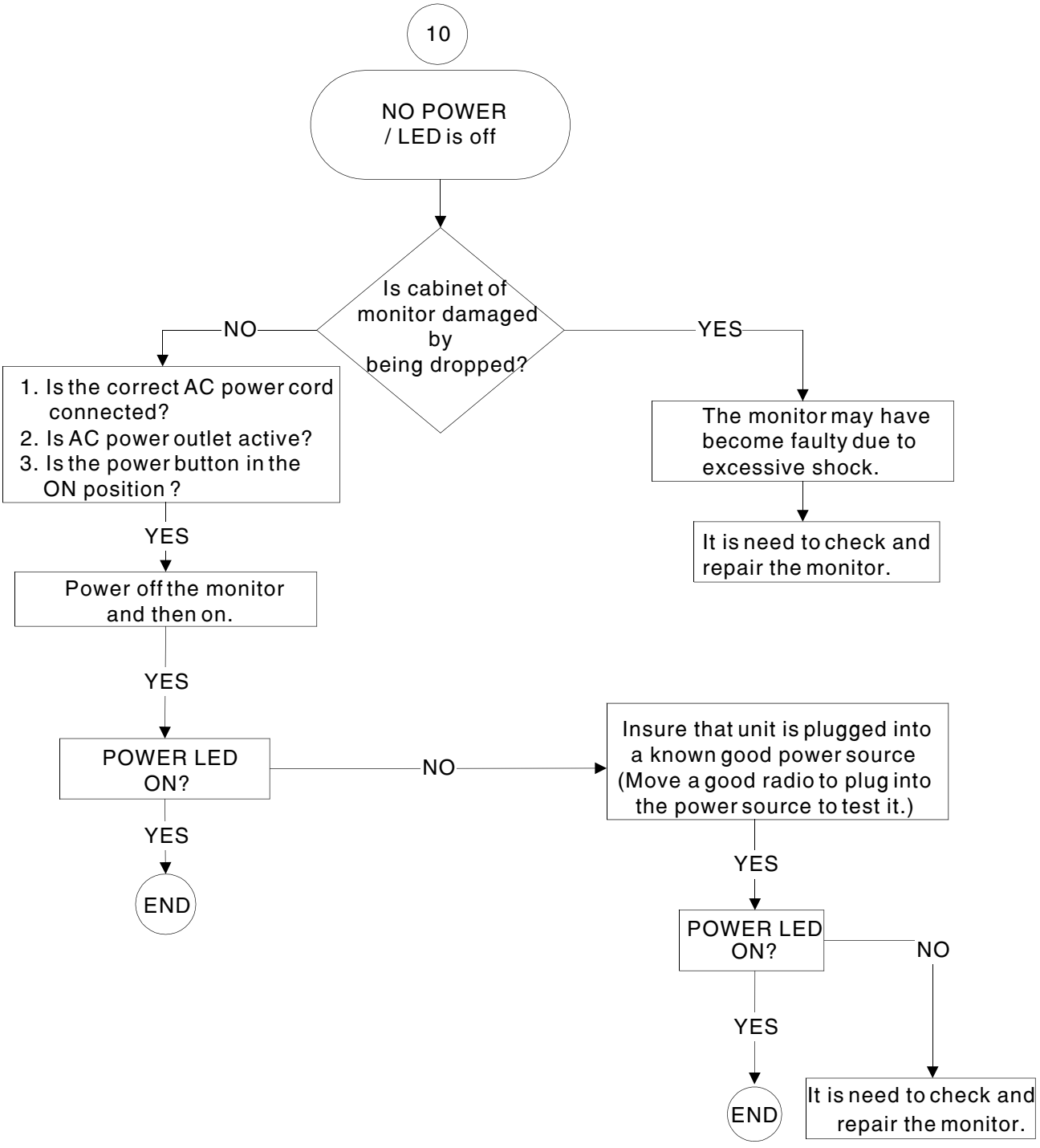
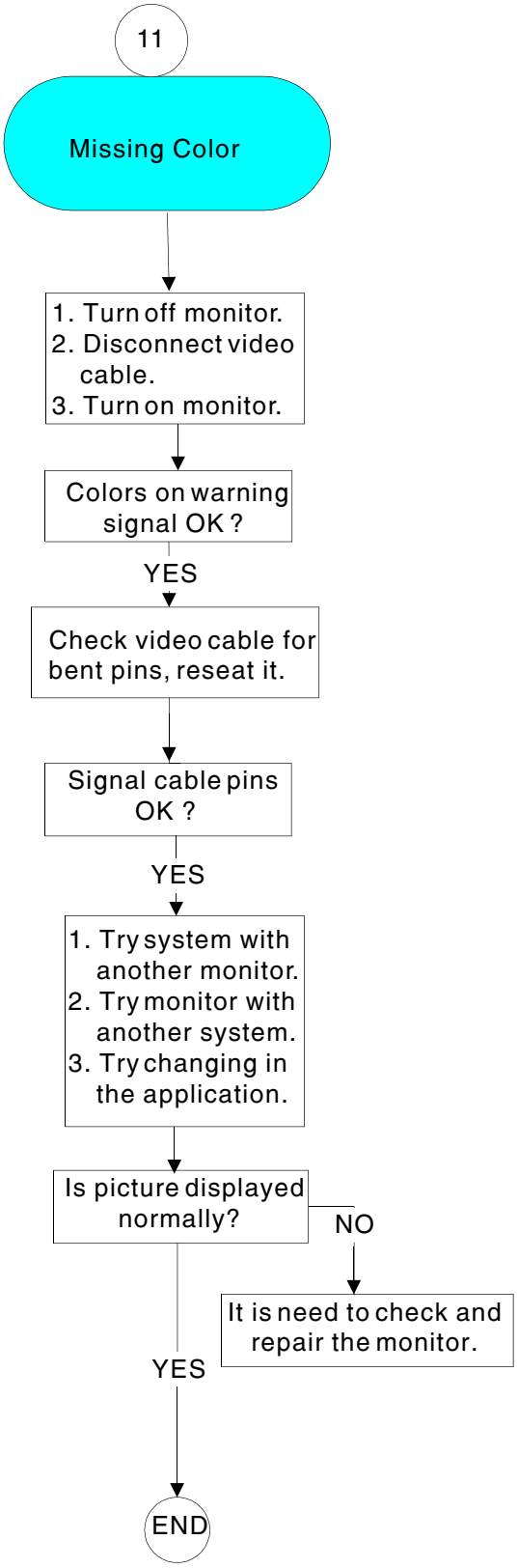
General Troubleshooting Guide (Continued)


8
Picture too bright
Adjust Brightness and/or contrast via the Monitor "On-Screen Display" or "Front Control Knob".
Is picture displayed normally?
NO
YES
END
* Reset the monitor via OSD manipulation. (Select "Reset to Factory settings".)
*(or => Change the color temperature settings to be 9300 color coordination from OSD menu.)
* Try the monitor with another computer (Video card could be defective.)
Is picture displayed normally?
NO
YES
END
It is need to check and repair the monitor.


9
Picture too dim
Note :
1. Sun light passing through a window is much brighter than monitor luminance (Luminance is the measurable quantity which most closely corresponds to brightness), therefore the two worst places for a monitor is directly facing the window or directly behind the window. Position the monitor away from these two areas.
Adjust Brightness and/or contrast via the Monitor "On-Screen Display" or "Front Control Knob".
Is picture displayed normally?
NO
YES
END
Is an external Anti-Glare screen (like protective cover, touch screen..etc.) being used ?
NO
Remove any external Anti-Glare screen.
Is picture displayed normally?
NO
YES
END
* Reset the monitor via OSD manipulation. (Select "Reset to Factory settings".)
*(or => Change the color temperature settings to be 9300 color coordination from OSD menu.)
* Try the monitor with another computer (Video card could be defective.)
Is picture displayed normally?
NO
YES
END
It is need to check and repair the monitor.

General Troubleshooting Guide (Continued)


10
NO POWER
/ LED is off
Is cabinet of monitor damaged by being dropped?
NO
YES
1. Is the correct AC power cord connected?
2. Is AC power outlet active?
3. Is the power button in the ON position ?
The monitor may have become faulty due to excessive shock.
It is need to check and repair the monitor.
YES
Power off the monitor and then on.
YES
POWER LED ON?
NO
Insure that unit is plugged into a known good power source (Move a good radio to plug into the power source to test it.)
YES
END
YES
POWER LED ON?
NO
YES
END
It is need to check and repair the monitor.



There are 2 easy ways to determine the Missing color problem.

1. View an image that is supposed to be "White".
   If one of the colors (RGB) is not functioning.
   White can not be produced.
2. View an image that supposed to contain Red, Green and Blue.
   Color problems will be apparent when one or more of these colors can not be displayed.

RED + Green + Blue = White

Cyan Color means that the red subpixel is missing.

RED + Green + Blue = White

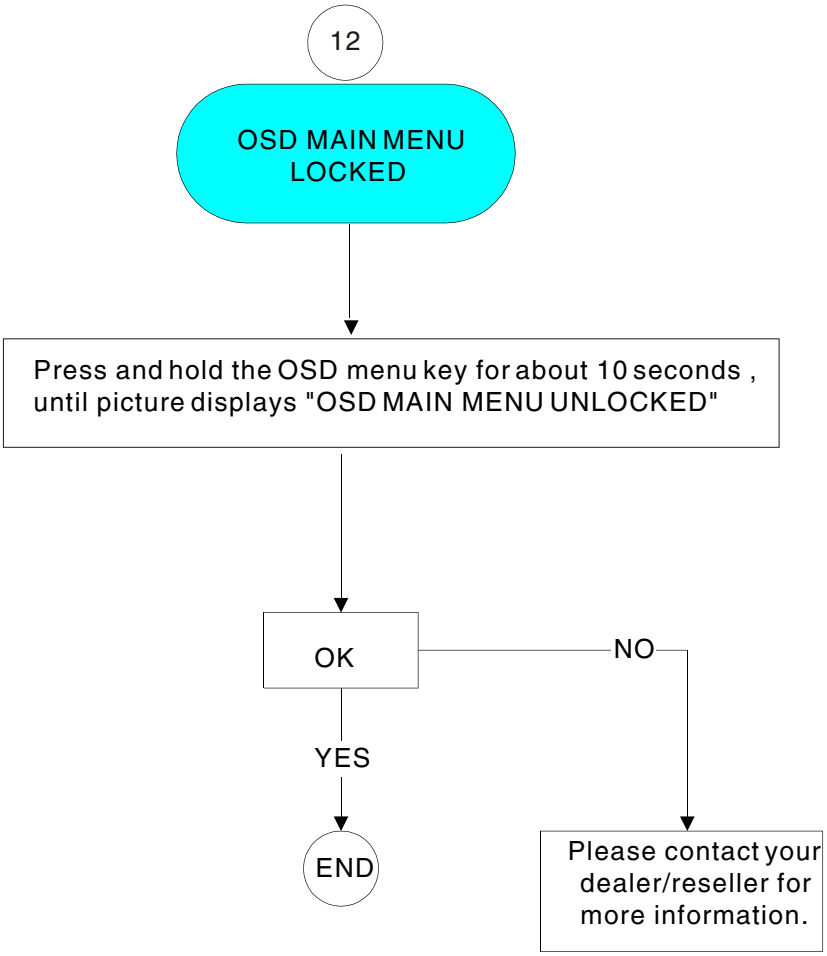
Magenta or Purple Color means that the green subpixel is missing.

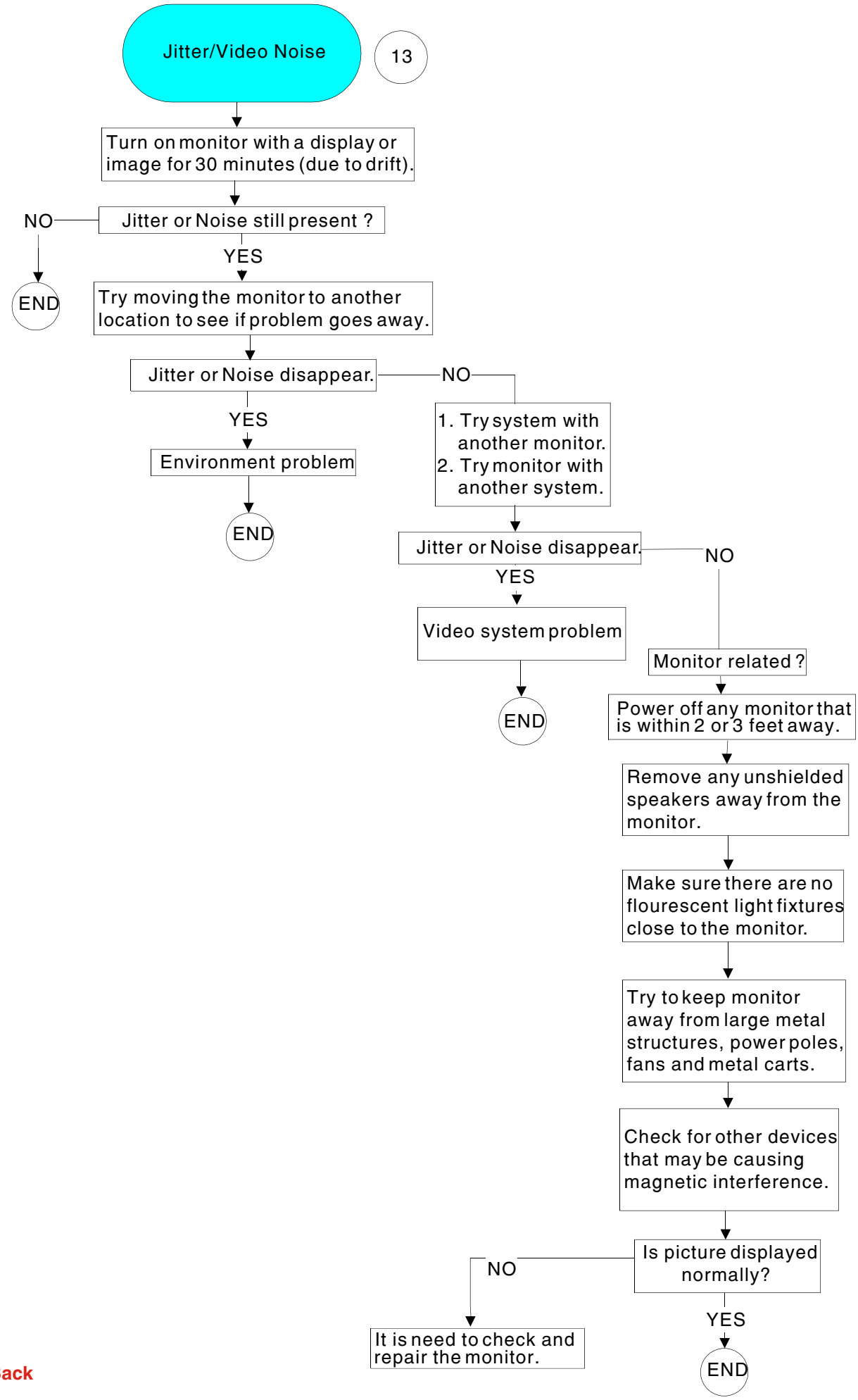
RED + Green + Blue = White

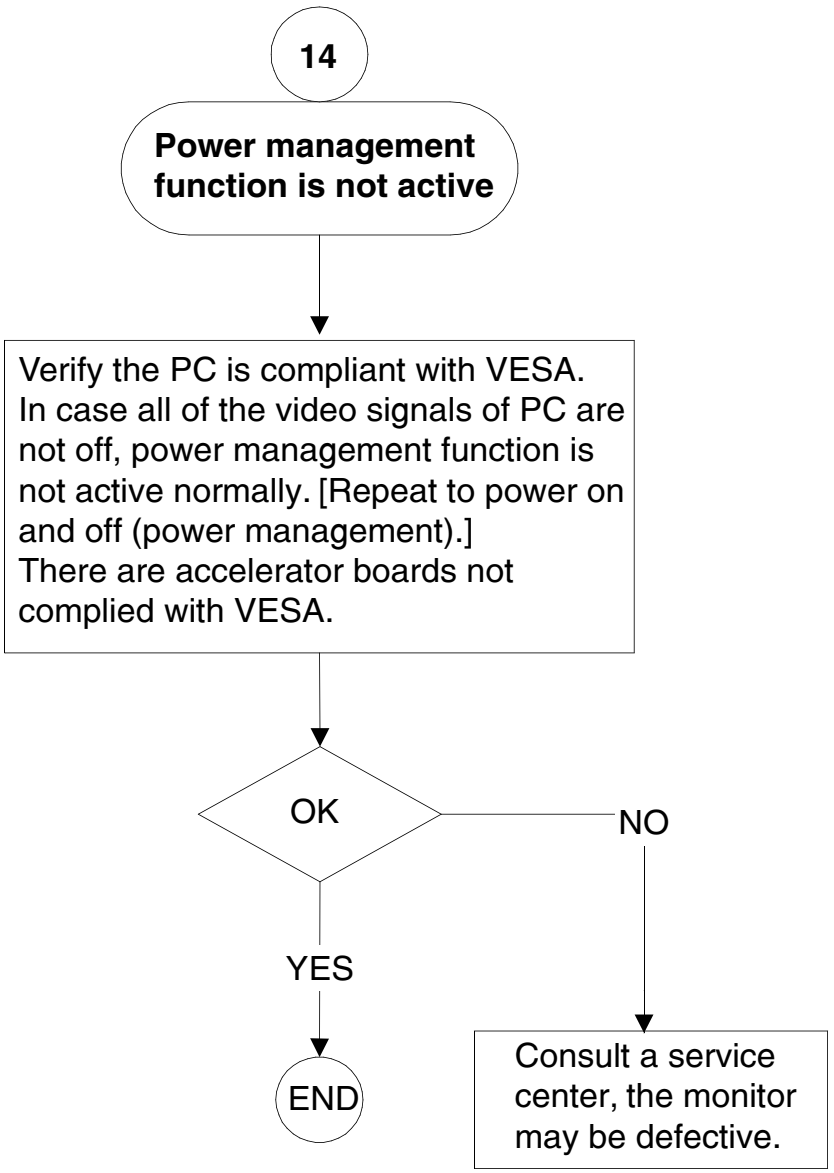
Yellow Color means that the blue subpixel is missing.

RED + Green + Blue = White

General Troubleshooting Guide (Continued)


12
OSD MAIN MENU LOCKED
Press and hold the OSD menu key for about 10 seconds , until picture displays "OSD MAIN MENU UNLOCKED"
OK
NO
YES
END
Please contact your dealer/reseller for more information.


Jitter/Video Noise
13
Turn on monitor with a display or image for 30 minutes (due to drift).
Jitter or Noise still present ?
NO
YES
END
Try moving the monitor to another location to see if problem goes away.
Jitter or Noise disappear.
NO
YES
Environment problem
END
1. Try system with another monitor.
2. Try monitor with another system.
Jitter or Noise disappear.
NO
YES
Video system problem
END
Monitor related ?
Power off any monitor that is within 2 or 3 feet away.
Remove any unshielded speakers away from the monitor.
Make sure there are no flourescent light fixtures close to the monitor.
Try to keep monitor away from large metal structures, power poles, fans and metal carts.
Check for other devices that may be causing magnetic interference.
Is picture displayed normally?
NO
It is need to check and repair the monitor.
YES
END


14
Power management function is not active
Verify the PC is compliant with VESA.
In case all of the video signals of PC are not off, power management function is not active normally. [Repeat to power on and off (power management).]
There are accelerator boards not complied with VESA.
OK
NO
YES
END
Consult a service center, the monitor may be defective.

General Troubleshooting Guide (Continued)

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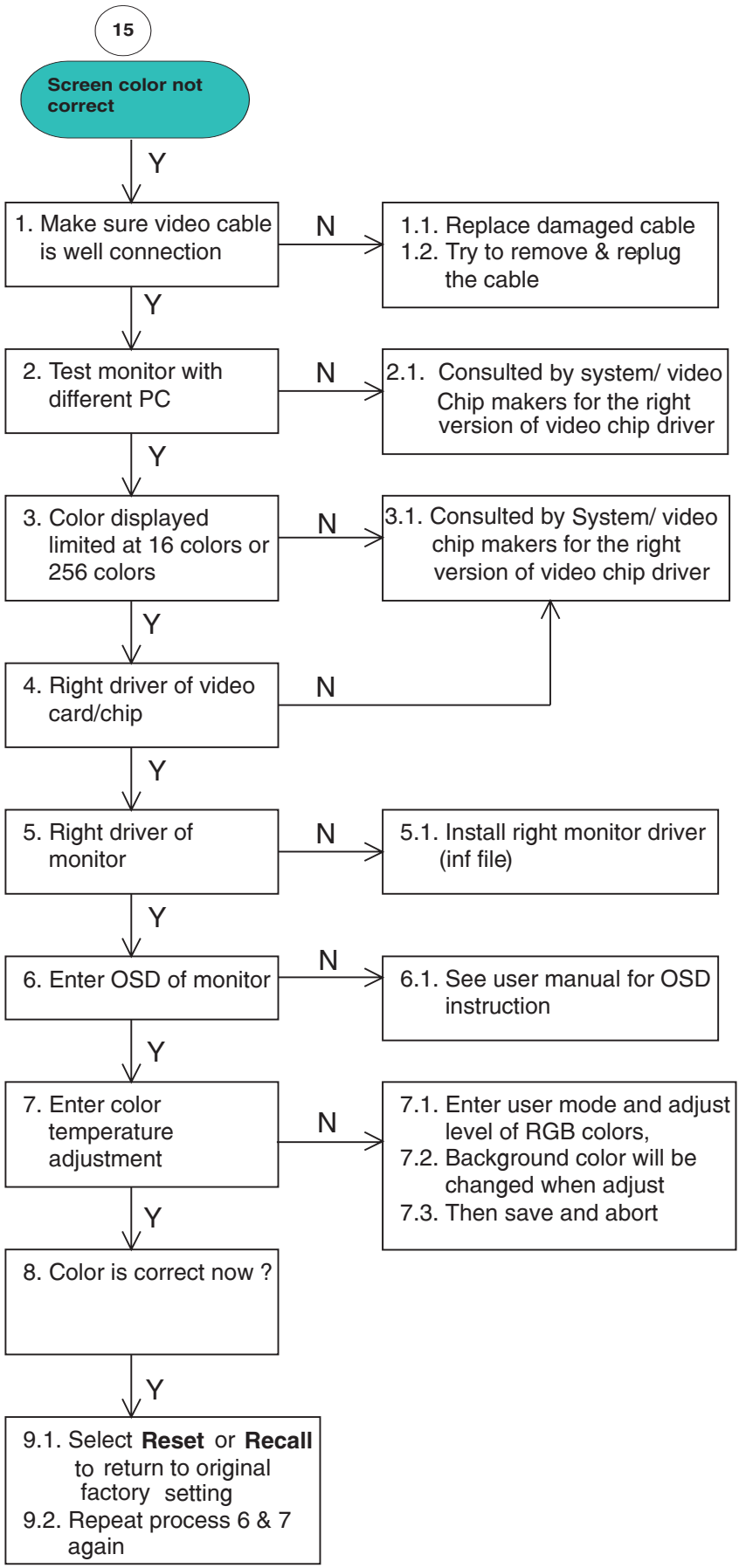
15
Screen color not correct
Y
1. Make sure video cable is well connection
N
1.1. Replace damaged cable
1.2. Try to remove & replug the cable
Y
2. Test monitor with different PC
N
2.1. Consulted by system/ video Chip makers for the right version of video chip driver
Y
3. Color displayed limited at 16 colors or 256 colors
N
3.1. Consulted by System/ video chip makers for the right version of video chip driver
Y
4. Right driver of video card/chip
N
Y
5. Right driver of monitor
N
5.1. Install right monitor driver (inf file)
Y
6. Enter OSD of monitor
N
6.1. See user manual for OSD instruction
Y
7. Enter color temperature adjustment
N
7.1. Enter user mode and adjust level of RGB colors,
7.2. Background color will be changed when adjust
7.3. Then save and abort
Y
8. Color is correct now ?
Y
9.1. Select Reset or Recall to return to original factory setting
9.2. Repeat process 6 & 7 again

1.1. Pins on cable without damage
1.2. Video cable is securely connected to computer
1.3. All electronic devices are 3 feet away from the monitor

3.1. It s video driver problem, normally due to improper version of the driver

5.1. Driver in CDROM manual / Philips web
5.2. Philips Web: www.philips.com
5.3. Subcontent: pcstuff

6.1. Entry OSD by pressing for **MENU** button which on front cabinet of monitor

7.1. Normally, 9300 is for office, CAD/CAM, or user in Europe/USA regions
7.2. Normally, 6500 is for game, desktop publications, image management and user in Asia Pacific
7.3. Then save and abort

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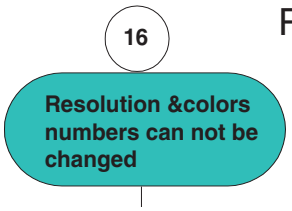
Resolution and color numbers can not be changed



YES

1. Make sure video cable is well connection — NO ▶ 1.1. Replace damaged cable; 1.2. Try to remove 7re-plug the cable

1.1. Pin on cable without damage
1.2. Video cable is securely connected to computer.
1.3. All electronics dervoces are 3 feet away from the monitor.

YES

2. Test monitor with different pc — NO ▶ 2.1 Consulted by system/video chip makers for the right version of video chip driver

YES

3. Color displayed limited at 16 colors or 256 colors...ect — YES ▶ 3.1 Consulted by system/video chip makers for the right version of video chip driver

3.1. It's video card/driver problem, normally due to improper version of the driver.
3.2. Color displayed limited also due to insufficinet on-board memory (Video RAM, on video card)

YES

4. Right video card/ driver, but resolution still not changeable

4.1. Resolution mode not be changeable normally due to improper version of the video card/driver.
4.2. It also could be due to improper version of the monitor drive(inf file)

YES

5. Right driver of monitor — NO ▶ 5.1 Install right monitor driver (inf file)

5.1. Driver in CDROM manual/Philips web
5.2. Philips Web:www.philips.com
5.3. Sub-content:pcstuff.

General Troubleshooting Guide (Continued)

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Resolution can not be changed and LightFrame not work on Mac PC

Resolution can not be changed and LightFrame not work on Power Mac

YES

1. Test monitor with different IBM pc — NO ▶ 1.1. Consulted by system/video chipmakers for the right version of video chip drive

YES

2. Right video card/ driver,but resolution still not changeable — NO ▶ 2.1 Consulted by system/video chip makers for the right version of video chip driver

YES

3. Right monitor type for your Mac system — NO ▶ 3.1 Consulted by system makers for the desired resolution

YES

4. Proper VGA Adaptor for your Mac — NO ▶ 4.1 Consulted by system makers for the proper VGA Adaptor and where to buy

YES

5. LightFrame still not possible to install for Mac — NO ▶ 5.1 LightFrame can not run on mac except Power Mac G4

6.

VGA adaptor for Mac PC
(one kind of sample)

4.1. VGA Adaptor is the interface between Mac and normal IBM VGA monitor, see the figure.(It's one kind of sample only)
4.2. Resolution changed on Mac is done by setting of DIP switch of the adaptor (change ID configuration)
4.3. Power Mac G4 has been implemented the VGA feature on Mac system(3 rows,15 pins D-shell connector)

5.1. Only power Mac G4 can run LightFrame or other Mac which system output with VGA 15 pins(3 rows) D-shell connector
5.2. The LightFrame not work on Mac due to Mac dis-connect DDC output for IBM VGA Monitor(pin 12 for SDA and pin 15 for SCL)
5.3. Sub-content:pcstuff.

6.1. Please be noticed that LCD monitor can not run the LightFrame

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